

# CONFERENCE PRESENTATIONS

**2015**

**2014**

**2013**

**2012**

**2011**

**2010**

**2009**

**2008**

**2007**

**2006**

**2005**

**2004**

**2003**

**2002**

# 2015

## INVITED PRESENTATIONS

### **Ultra-fast three terminal perpendicular spin-orbit torque MRAM**

Boulle, O., M. Cubukcu, C. Hamelin, N. Lamard, L.D. Buda-Prejbeanu, N. Mikuszeit,

K. Garello, P. Gambardella, J. Langer, B. Ocker, I.M. Miron and G. Gaudin

SPIE Optics+Photonics Conference, San Diego (USA), Aug. 9-13 2015

### **Spin-orbit torque-driven ultra-fast magnetization reversal in nanodots**

Buda-Prejbeanu, L.D., N. Mikuszeit, O. Boulle, I.M. Miron and G. Gaudin

Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 30-Jul. 3 2015

### **Spin transfer phenomena**

Chshiev, M.

European School on Magnetism, Cluj-Napoca (Romania), Aug. 24-Sep. 4 2015

### **Anatomy of spin-orbit phenomena at FM/NM interfaces**

Chshiev, M.

Energy, Materials and Nanotechnology Conference, Phuket (Thailand), May 4-7 2015

### **Anatomy of spin-orbit phenomena at FM/NM interfaces**

Chshiev, M.

Workshop on Spin-Orbit Coupling in Surface or Interface States, Spetses (Greece), Jun. 8-12 2015

### **Perpendicular magnetic tunnel junctions with single and double MgO barriers for STT-MRAM cells**

Cuchet, L., A. Timopheev, P.-Y. Clément, B. Rodmacq, S. Auffret, C. Baraduc, R.C.

Sousa, I.L. Prejbeanu, M. Chshiev and B. Dieny

International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

### **MRAM 1 (MTJ, Field driven MRAM)**

Dieny, B.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

### **MRAM 2 (STT-RAM)**

Dieny, B.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

### **MRAM 3 (Thermally Assisted MRAM, 3-terminal MRAM)**

Dieny, B.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

**Spin torque driven magnetization dynamics**

Ebels, U.

International Summer School “Nicolás Cabrera”, Madrid (Spain), Jul. 11-16 2015

**Mechanical magnetometry**

Klein, O.

[Gordon Research Conference on Spin Dynamics in Nanostructures](#), Hong Kong (China), Jul. 26-31 2015**Full control of the spin-wave damping in a magnetic insulator using spin-orbit torque**

Klein, O.

[American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015**Ferromagnetic resonance spectroscopy**

Klein, O.

5<sup>th</sup> Nanoscale Magnetic Resonance Imaging Conference, Toronto (Canada), Jul. 27-31 2015**Generation of coherent spin-wave modes in YIG disks by spin-orbit torque**

Klein, O.

Workshop on Spin Mechanics, Munich (Germany), Jun. 22-26 2015

**Ultrafast deterministic switching in STT-MRAM with orthogonal polarizing layers**

Lacoste, B., M. Marins de Castro Souza, T. Devolder, R.C. Sousa, L.D. Buda-Prejbeanu, S. Auffret, U. Ebels, C. Ducruet, I.L. Prejbeanu and L. Vila

York-Tohoku-Kaiserslautern Spintronics Workshop, York (United Kingdom), Jun. 11-13 2015

**A non-volatile error correcting dual modular redundancy structure for harsh environments**

Lopes, J., G. di Pendina, E. Beigné and L. Torres

IEEE International Symposium on VLSI, Montpellier (France), Jul. 8-10 2015

**MRAM process and test**

Prejbeanu, I.L.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

**Chiral effects in domain wall propagation and nucleation in Pt/Co/AlO<sub>x</sub> and Pt/Co/GdO<sub>x</sub>**

Pizzini, S., J. Vogel, S. Rohart, L.D. Buda-Prejbeanu, I.M. Miron, G. Gaudin, O. Boulle, E. Jué and A. Thiaville

European Materials Research Society Spring Meeting, Lille (France), May 11-15 2015

## **Microelectronics basics 1**

Prenat, G.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

## **Microelectronics basics 2**

Prenat, G.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2015

## **Influence of interlayer coupling on spin torque-driven excitations in nanopillar structures**

Romera, M., E. Montebalco, B. Lacoste, F. Garcia-Sanchez, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu, B. Dieny and U. Ebels  
Magnonics Conference, Seeon (Germany), Aug. 2-6 2015

## **Perpendicular anisotropy tunnel junction optimization for MRAM cells**

Sousa, R.C., L. Cuchet, B. Rodmacq, S. Auffret and B. Dieny

8<sup>th</sup> International Conference on Materials for Advanced Technologies, Suntec (Singapore), Jun. 28-Jul. 3 2015

## **Inducing magnetism in graphene via proximity effects and vacancies**

Yang, H.X.

Energy, Materials and Nanotechnology Conference, Phuket (Thailand), May 4-7 2015

## **Anatomy of spin-orbit phenomena at ferromagnetic/non-magnetic material interfaces**

Yang, H.X., A. Hallal, B. Dieny, A. Thiaville, S. Rohart, A. Fert and M. Chshiev  
SPIE Optics+Photonics Conference, San Diego (USA), Aug. 9-13 2015

## **Anatomy of Dzyaloshinskii-Moriya interaction at Co/Pt interfaces**

Yang, H.X., A. Thiaville, S. Rohart, A. Fert and M. Chshiev

International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

# **ORAL AND POSTER PRESENTATIONS**

## **Bridging amount of spin-glasses over ferromagnetic/antiferromagnetic thin films and bit-cell dispersion of exchange bias in corresponding TA-MRAM devices**

Akmaldinov, K., C. Ducruet, J. Alvarez-Héault and V. Baltz

Oral: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

## **Bridging amount of disordered magnetic phases located over ferromagnetic/antiferromagnetic thin films and cell variability of exchange bias in corresponding TA-MRAM chips**

Akmaldinov, K., L. Frangou, C. Ducruet, C. Portemont, J. Pereira, I. Joumard, B. Dieny, J. Alvarez-Héault and V. Baltz

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Modulation of the amplitude of spin transfer torque in double barrier magnetic tunnel junctions**

Baraduc, C., P.-Y. Clément, P. Veloso Coelho, C. Ducruet, L. Vila, M. Chshiev and B. Dieny

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Extraordinary exchange-bias effects in coupled SmCo<sub>5</sub> (perpendicular)/CoFeB (in-plane) bilayers**

Bollero, A., F. Pedrosa, J.L.F. Cuñado, J. Camarero, M. Seifert, V. Neu, V. Baltz, D. Serantes, O. Chubykalo-Fesenko, R. Perez del Real, M. Vázquez, L. Schultz, B. Dieny and R. Miranda

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Extraordinary “EB-like” phenomenon in orthogonally coupled ferromagnets: SmCo<sub>5</sub> (perpendicular) /CoFeB and /NiFe (in-plane) bilayers**

Bollero, A., F. Pedrosa, J.L.F. Cuñado, J. Camarero, M. Seifert, V. Neu, V. Baltz, D. Serantes, O. Chubykalo-Fesenko and R. Perez del Real

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Observation of magnetic skyrmions at room temperature in ultrathin Pt/Co/MgO perpendicularly-magnetized multilayers by XMCD-PEEM**

Boulle, O., J. Vogel, S. Pizzini, L.D. Buda-Prejbeanu, O.T. Mentes, A. Locatelli, A. Sala and G. Gaudin

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Observation of magnetic skyrmions at room temperature in ultrathin Pt/Co/MgO perpendicularly-magnetized multilayers by XMCD-PEEM**

Boulle, O., J. Vogel, S. Pizzini, L.D. Buda-Prejbeanu, O.T. Mentes, A. Locatelli, A. Sala and G. Gaudin

Oral: European Materials Research Society Spring Meeting, Lille (France), May 11-15 2015

**Controlled pulse shape cooling in planar TAS STT-MRAM for improved writeability**

Chavent, A., C. Ducruet, C. Portemont, C. Creuzet, L. Vila, J. Alvarez-Héault, R.C. Sousa, I.L. Prejbeanu and B. Dieny

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Spin and charge transport across cobalt/graphene interfaces**

Chshiev, M., A. Kalitsov and O. Mryasov

Oral: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

**Spin-orbit torques-driven ferromagnetic resonance in ultrathin YIG disks**

Collet, M., O. d'Allivy Kelly, R. Bernard, E. Jacquet, P. Bortolotti, V. Cros, A. Anane, X. de Milly, G. de Loubens, V.V. Naletov, O. Klein, J.L. Prieto and M. Munoz

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Ultra-fast three-terminal spin-orbit torque MRAM with perpendicular magnetization**

Cubukcu, M., O. Boulle, C. Hamelin, N. Lamard, I.M. Miron, J. Langer, B. Ocker, M.-C. Cyrille, K. Garello, P. Gambardella and G. Gaudin

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Ultra-fast three-terminal perpendicular spin-orbit torque MRAM**

Cubukcu, M., O. Boulle, N. Mikuszeit, C. Hamelin, N. Lamard, L.D. Buda-Prejbeanu, K. Garello, I.M. Miron, J. Langer, B.Ocker, P. Gambardella and G. Gaudin

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Development of dual magnetic tunnel junctions with perpendicular anisotropy and double polarizing layers**

Cuchet, L., B. Rodmacq, R.C. Sousa, S. Auffret, I.L. Prejbeanu and B. Dieny

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Double magnetic tunnel junctions with perpendicular anisotropy**

Cuchet, L., R.C. Sousa, S. Auffret, I.L. Prejbeanu and B. Dieny

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Improved composite antiferromagnets (<sup>c</sup>AF) and ferromagnet/<sup>c</sup>AF interfaces for spintronics applications**

Frangou, L., K. Akmalidinov, C. Ducruet, I. Joumard, B. Dieny and V. Baltz

Poster: International Summer School "Nicolás Cabrera", Madrid (Spain), Jul. 11-16 2015

**Independently tuning the interfacial and bulk contributions to exchange bias for ferromagnetic/(antiferromagnetic) thin films with (IrMn/Pt/FeMn)-based composite antiferromagnets**

Frangou, L., K. Akmalidinov, C. Ducruet, I. Joumard, B. Dieny and V. Baltz

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**First-principles study of electric field and structural strain impact on perpendicular magnetic anisotropy of Fe/MgO interfaces**

Ibrahim, F., H.X. Yang, B. Dieny and M. Chshiev

Oral: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

**Magnetic tunnel junctions spin torque oscillators**

Jaimes Merazzo, K., R. Hida, J. Hem, A. Purbawati, M. Tortarolo, C. Dieudonné, R. Ferreira, L. Vila, U. Ebels, M.-T. Delaye and M.-C. Cyrille

Poster: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 30-Jul. 3 2015

**Spin torque oscillators based on magnetic tunnel junctions**

Jaimes Merazzo, K., R. Hida, J. Hem, A. Purbawati, M. Tortarolo, C. Dieudonné, R. Ferreira, L. Vila, U. Ebels, M.-T. Delaye and M.-C. Cyrille

Poster: European Materials Research Society Spring Meeting, Lille (France), May 11-15 2015

**Gate-voltage controlled spin pumping effects: Spin injection from YIG and Co into metal and graphene-based 2D materials**

Kalitsov, A., M. Chshiev and O. Myrasov

Oral: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

**Extended auto-oscillator equation and nonlinear parameters of a synthetic ferrimagnet spin torque oscillator**

Lacoste, B., M. Romera, U. Ebels and L.D. Buda-Prejbeanu

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Analytical model of a synthetic ferrimagnet spin torque oscillator: Comparison of the self-polarized with the external polarizer case**

Lacoste, B., M. Romera, U. Ebels and L.D. Buda-Prejbeanu

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Low-power hybrid STT/CMOS systems-on-chip embedding non-volatile magnetic memory blocks**

Layer, C., B. Dieny, L. Becker, K. Jabeur, S. Gros, P. Paoli, V. Javerliac and F. Bernard-Granger

Oral: IEEE International New Circuits and Systems Conference, Grenoble (France), Jun. 7-10 2015

**Hybrid STT/CMOS design of an interrupt-based instant on/off mechanism for low-power SoC**

Layer, C., B. Dieny, L. Becker, K. Jabeur, S. Gros, P. Paoli, V. Javerliac and F. Bernard-Granger

Oral: IEEE International Symposium on VLSI, Montpellier (France), Jul. 8-10 2015

**Thermally-activated diffusion in Cu/Co/IrMn/Pt multilayers investigated by atom probe tomography**

Le Breton, J.-M., F. Letellier, R. Lardé, L. Lechevallier, V. Baltz, K. Akmaldinov, S. Auffret and B. Dieny

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Bimodal distribution of blocking temperature for exchange-biased ferromagnetic/antiferromagnetic bilayers: A granular Monte Carlo study with less stable magnetic regions spread over the interface**

Ledue, D., G. Lhoutellier, R. Patte, F. Barbe, B. Dieny and V. Baltz

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Narrow magnetic vortex dynamics in easy-plane anisotropy films induced by spin transfer torque and spin-orbit torque**

Liu, H., L.D. Buda-Prejbeanu and B. Dieny

Poster: Intermag Conference, Beijing (China), May 11-15 2015

**Asynchronous design for harsh environments**

Lopes, J., G. di Pendina, E. Beigné and L. Torres

Oral: 21<sup>st</sup> IEEE International Symposium on Asynchronous Circuits and Systems, Mountain View (USA), May 4-6 2015

**Tunability versus deviation sensitivity in a non-linear vortex oscillator**

Martin, S., C. Thirion, C. Hoarau, C. Baraduc and B. Dieny

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Theoretical investigation of spin transfer torque in antiferromagnetic and ferrimagnetic tunnel junctions**

Merodio Cámaras, P., A. Kalitsov, H. Béa, V. Baltz and M. Chshiev

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Magnetization reversal by spin-orbit torque in a perpendicularly-magnetized nanomagnet: A micromagnetic study**

Mikuszeit, N., O. Boulle, L.D. Buda-Prejbeanu, I.M. Miron and G. Gaudin

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Magnetic superparamagnetic-like microparticles for cancer cells destruction**

Morcrette, M., H. Joisten, G. Ortiz Hernandez, S. Lequien, P. Sabon, M. Carrière, Y.

Hou-Broutin, A. Bsiesy and B. Dieny

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Anisotropic superparamagnetic-like microparticles for cancer cell destruction**

Morcrette, M., H. Joisten, G. Ortiz Hernandez, S. Lequien, P. Sabon, M. Carrière, Y.

Hou-Broutin, A. Bsiesy and B. Dieny

Oral: 5<sup>th</sup> Zing Bionanomaterials Conference, Carvoeiro (Portugal), Apr. 25-28 2015

**Synthesis of mono disperse magnetic nanoparticles prepared on block copolymer templates for medical imaging techniques**

Morcrette, M., S. Tallegas, H. Joisten, G. Ortiz Hernandez, R. Tiron, T. Baron, S.

Lequien, Y. Hou-Broutin, A. Bsiesy and B. Dieny

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Magnetic micro-mechanical systems for magnetic field mapping by optical effect**

Ortiz, G., M. Morcrette, T. Dietsch, P. Sabon, I. Jourard, H. Joisten and B. Dieny

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Micromagnetic mechanical systems for biomedical applications**

Ortiz, G., M. Morcrette, P. Sabon, C. Iss, T. Dietsch, S. Leulmi, H. Joisten and B.

Dieny

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Spin transfer torque in magnetic tunnel junctions with magnetic insulators**

Paujac, C.O., A. Kalitsov, A. Manchon and M. Chshiev

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Chiral effects in domain wall velocity and nucleation in Pt/Co/MO<sub>x</sub> films: The influence of the Dzyaloshinskii-Moriya interaction**

Pizzini, S. J. Vogel, S. Rohart, L.D. Buda-Prejbeanu, I.M. Miron, G. Gaudin, O Boulle, E. Jué and A. Thiaville

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Direct determination of domain wall type by nano-scale stray field mapping in ultra-thin ferromagnets**

Rohart, S., T. Hingant, J.-P. Tetienne, L.J. Martinez Rodriguez, A. Thiaville, L. Herrera Diez, K. Garcia, J.-P. Adam, J.V. Kim, J.-F. Roch, I.M. Miron, G. Gaudin, L. Vila, B. Ocker, D. Ravelosona and V. Jacques

Poster: European Materials Research Society Spring Meeting, Lille (France), May 11-15 2015

**Non-linear mode interaction between spin torque-driven and damped modes in spin torque nano-oscillators**

Romera, M., E. Montebelanco, F. Garcia-Sanchez, B. Delaët, L.D. Buda-Prejbeanu and U. Ebels

Poster: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun 30-Jul 3 2015

**Non-linear mode interaction between spin torque-driven and damped modes in spin torque nano-oscillators**

Romera, M., E. Montebelanco, F. Garcia Sanchez, B. Delaët, L.D. Buda-Prejbeanu and U. Ebels

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Chiral damping of field-driven magnetic domain walls**

Safeer, C.K., E. Jué, M. Drouard, A. Lopez, P. Balint, L.D. Buda-Prejbeanu, S. Auffret, A. Manchon, A. Schuhl, O. Boulle, I.M. Miron and G. Gaudin

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Magnetic origami**

Safeer, C.K., E. Jué, A. Lopez, L.D. Buda Prejbeanu, S. Auffret, J. Vogel, S. Pizzini, O. Boulle, I.M. Miron and G. Gaudin

Poster: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Geometry effects on magnetization dynamics in circular cross-section wires**

Sturma, M., J.-C. Toussaint and D. Gusakova

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Geometry effects on magnetization dynamics in circular cross-section wires**

Sturma, M., J.-C. Toussaint and D. Gusakova

Poster: European Materials Research Society Spring Meeting, Lille (France), May 11-15 2015

**Relative role of in-plane and out-of-plane spin transfer torques on the magnetization switching of fully perpendicular magnetic tunnel junctions**

Timopheev, A.A., L.D. Buda-Prejbeanu, M. Chshiev, R.C. Sousa and B. Dieny

Poster: Magnonics Conference, Seeon (Germany), Aug. 2-6 2015

**SOT measurements in heavy metal/ferromagnetic heterostructures with in-plane magnetization**

Trifu, A., I.M. Miron, O. Boulle, S. Auffret, C.O. Avci, K. Garello, P. Gambardella and G. Gaudin

Poster: IEEE Summer School on Magnetism, Minneapolis (USA), Jun. 14-19 2015

**X-ray induced anisotropy change in Pt/Co/MgO trilayers**

Vogel, J., S. Pizzini, T. Onur Mentes, A. Sala, A. Locatelli, L.D. Buda-Prejbeanu, G. Gaudin and O. Boulle

Oral: International Conference on Magnetism, Barcelona (Spain), Jul. 5-10 2015

**Co-graphene heterostructures with giant perpendicular magnetocrystalline anisotropy**

Yang, H.X. and M. Chshiev

Oral: Intermag Conference, Beijing (China), May 11-15 2015

**Switching of magnetocrystalline anisotropy of a single layer cobalt film by graphene**

Yang, H.X. and M. Chshiev

Oral: ImagineNano Conference, Bilbao (Spain), Mar. 10-13 2015

**Giant perpendicular magnetic anisotropy of graphene-Co heterostructures**

Yang, H.X., A. Hallal and M. Chshiev

Oral: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

**Anatomy of Dzyaloshinskii-Moriya interaction at Co/Pt interfaces**

Yang, H.X., S. Rohart, A. Thiaville, A. Fert and M. Chshiev

Poster: [American Physical Society March Meeting](#), San Antonio (USA), Mar. 2-6 2015

**Non-volatility for ultra-low power asynchronous circuits in hybrid CMOS/magnetic technology**

Zianbetov, E., G. di Pendina and E. Beigné

Oral: 21<sup>st</sup> IEEE International Symposium on Asynchronous Circuits and Systems, Mountain View (USA), May 4-6 2015

# 2014

## INVITED PRESENTATIONS

### **Breakdown mechanisms in MgO-based magnetic tunnel junctions and correlation with low frequency noise**

Amara-Dababi, S., R.C. Sousa, H. Béa, C. Baraduc, K. Mackay and B. Dieny  
International Reliability Physics Symposium, Waikoloa (USA), Jun. 3-5 2014

### **Electric-field control of domain wall nucleation and pinning in a metallic ferromagnet**

Bernard-Mantel, A., L. Herrera-Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, S. Auffret, O. Boulle, I.M. Miron and G. Gaudin  
10<sup>th</sup> European Conference on Magnetic Sensors and Actuators, Vienna (Austria), Jul. 6-9 2014

### **Manipulation of magnetization by spin-orbit torques in nanomagnets**

Boulle, O.  
One day Conference on Nanomagnetism, Nancy (France), Nov. 24 2014

### **STT-MRAM with improved read and write margins thanks to read/write mode select layer**

Clément, P.-Y., C. Ducruet, I. Joumard, C. Baraduc, M. Chshiev and B. Dieny  
Materials Research Society Fall Meeting, Boston (USA), Nov. 30-Dec. 5 2014

### **Hybrid CMOS/Magnetic process design kit and SOT-based non-volatile standard cell architectures**

Di Pendina, G., K. Jabeur and G. Prenat  
19<sup>th</sup> Asia and South Pacific Design Automation Conference, Suntec (Singapore), Jan. 20-23 2014

### **MRAM: MTJ, Field-driven MRAM**

Dieny, B.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 2-4 2014

### **MRAM: STTRAM**

Dieny, B.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 2-4 2014

### **MRAM: Thermally Assisted MRAM and other advanced MRAM concepts**

Dieny, B.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 2-4 2014

### **Emerging materials and devices for nonvolatile memories**

Dieny, B.  
Materials Research Society Fall Meeting, Boston (USA), Nov. 30-Dec. 5 2014

**Magnetic, transport and dynamic properties of spintronics nanomaterials**

Ebels, U.

Erasmus Intensive Programme PLASMAG, Berlin (Germany), Jul. 20-Aug. 2 2014

**Ultrafast magnetization switching by spin-orbit torques**

Garello, K., C.O. Avci, I.M. Miron, O. Boulle, S. Auffret, A. Ghosh, M. Baumgartner, G. Gaudin and P. Gambardella

12<sup>th</sup> RIEC International Workshop on Spintronics, Tohoku (Japan), Jun. 25-27 2014**Spin-orbit torques in ferromagnetic heterostructures: Fundamentals and applications**

Garello, K., C.O. Avci, I.M. Miron, O. Boulle, F. Freimuth, Y. Mokrousov, S. Blugel, G. Gaudin and P. Gambardella

International Workshop on Current-Driven Magnetisation Dynamics, Leeds (United Kingdom), Jan. 7-9 2014

**Spin-orbit torques in ferromagnetic heterostructures: Fundamentals and applications**

Garello, K., C.O. Avci, I.M. Miron, O. Boulle, F. Freimuth, Y. Mokrousov, S. Blügel, G. Gaudin and P. Gambardella

Spie Conference on Nanosciences and Engineering, San Diego (USA), Aug. 17-21 2014

**Esperado – Effets du couple de transfert de spin et des champs Rashba et d'Oersted sur la dynamique de parois**

Gaudin, G., E. Jué, C.K. Safeer, A. Lopez, L.D. Buda-Prejbeanu, O. Boulle, S. Auffret, A. Schuhl, I.M. Miron, S. Pizzini, J. Vogel, N. Rougemaille, M. Bonfim, S. Rohart, A. Thiaville, S. Lequeux, J. Grollier, J. Sampaio, P. Bortolotti, P.J. Metaxas, A. Anane, A. Fert and V. Cros

Journées Nationales Nanosciences &amp; Nanotechnologies, Lyon (France), Nov. 12-14 2014

**Nanoparticles for biotechnological and biomedical applications prepared by a top-down approach**

Joisten, H., S. Leulmi, C. Iss, M. Morcrette, T. Dietsch, G. Ortiz Hernandez, Y. Hou-Broutin, L. Livache, R. Calemczuk, M. Carrière, P. Sabon, S. Auffret and B. Dieny

International Conference on Magnetic Materials and Applications, Pondicherry (India), Sep. 15-17 2014

**Spin-orbit torques in ferromagnetic thin films**

Miron, I.M., K. Garello, E. Jué, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, J. Vogel, S. Pizzini, A. Schuhl and P. Gambardella

14<sup>th</sup> REIMEI Workshop on Spin Currents and Related Phenomena, Grenoble (France), Feb. 10-13 2014**MRAM: From memories to the Internet of Things**Nozières, J.-P., V. Javerliac, F. Bernard-Granger, C. Layer, R.C. Sousa and B. Dieny  
International Conference on Magnetic Materials and Applications, Pondicherry (India), Sep. 15-17 2014

## **Magnetic Random Access Memories for the Internet of Things**

Nozières, J.-P., V. Javerliac, F. Bernard-Granger, C. Layer, R.C. Sousa and B. Dieny  
14<sup>th</sup> Non-Volatile Memory Technology Symposium, Jeju (Korea), Oct. 27-29 2014

## **MRAM: From memories to the Internet of Things**

Nozières, J.-P., V. Javerliac, F. Bernard-Granger, C. Layer, R.C. Sousa and B. Dieny  
International Global Foundries Workshop on STT-MRAM, Singapore, Nov. 6 2014

## **DMI-induced chiral nucleation in Pt/CoAlO<sub>x</sub> microstructures**

Pizzini, S., J. Vogel, S. Rohart, L.D. Buda-Prejbeanu, I.M. Miron, G. Gaudin, O. Boulle, E. Jué and A. Thiaville  
59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

## **Chiral magnetic effects in Pt/Co/AlO<sub>x</sub> ultrathin films**

Pizzini, S., J. Vogel, A. Thiaville, S. Rohart, J. Miltat, E. Jué, I.M. Miron, O. Boulle, L.D. Buda-Prejbeanu, C.K. Safeer and G. Gaudin  
International Workshop on Current-Driven Magnetisation Dynamics, Leeds (United Kingdom), Jan. 7-9 2014

## **MRAM concepts for sub-nanosecond switching and ultimate scalability**

Prejbeanu, I.L., S. Bandiera, R.C. Sousa and B. Dieny  
6<sup>th</sup> Forum on New Materials, Montecatini Terme (Italy), Jun. 15-19 2014

## **MRAM process**

Prejbeanu, I.L.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 2-4 2014

## **MRAM concepts for sub-nanosecond switching and ultimate scalability**

Prejbeanu, I.L.  
3<sup>rd</sup> STT-MRAM Global Innovation Forum, Paris (France), Apr. 3 2014

## **Design tools**

Prenat, G.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 2-4 2014

## **Magnetic memories: From DRAM replacement to ultra low power logic chips**

Prenat, G., G. di Pendina, C. Layer, O. Gonçalves, K. Jabeur, B. Dieny, R.C. Sousa, I.L. Prejbeanu and J.-P. Nozières  
Design, Automation and Test in Europe Conference and Exhibition, Dresden (Germany), Mar. 24-28 2014

## **Spin torque driven excitations of coupled magnetic layers**

Romera, M., E. Monteblanco, F. Garcia-Sanchez, A.S. Jenkins, G. Geranton, B. Lacoste, D. Gusakova, B. Dieny, L.D. Buda-Prejbeanu and U. Ebels  
International Conference on Brillouin and Microwave Spectroscopy of Magnetic Micro and Nanostructures, Saratov (Russia), Aug. 3-7 2014

**Insights on perpendicular anisotropy tunnel junctions for MRAM cells and sub-20nm scaling concepts**

Sousa, R.C.

3<sup>rd</sup> STT-MRAM Global Innovation Forum, Paris (France), Apr. 3 2014

**Perpendicular magnetic tunnel junction material optimization for MRAM cells and spin transfer torque field and bias dependence**

Sousa, R.C., L. Cuchet, B. Rodmacq, S. Auffret and B. Dieny

Spie Conference on Nanosciences and Engineering, San Diego (USA), Aug. 17-21 2014

**Multibit self-referenced thermally-assisted MRAM**

Stainer, Q., L. Lombard, K. Mackay, C. Ducruet, S. Bandiera, R.C. Sousa, G. Vinai, J. Moritz, I.L. Prejbeanu and B. Dieny

Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**First-principles insights on exchange splitting in graphene induced by magnetic insulator proximity and large vacancy effects**

Yang, H.X., A. Hallal, X. Waintal, S. Roche and M. Chshiev

Intermag Conference, Dresden (Germany), May 4-8 2014

## **ORAL AND POSTER PRESENTATIONS**

**Composite antiferromagnets for TA-MRAM applications**

Akmaldinov, K., C. Ducruet, C. Portemont, J. Alvarez-Héault, J. Vidal, I. Joumard, I.L. Prejbeanu, B. Dieny and V. Baltz

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 29-Jul. 3 2014

**Composite antiferromagnets for TA-MRAM applications**

Akmaldinov, K., C. Ducruet, C. Portemont, J. Alvarez-Héault, J. Vidal, I. Joumard, I.L. Prejbeanu, B. Dieny and V. Baltz

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Spin-orbit torques and thermal effects in heavy-metal/ferromagnet bilayers with in-plane magnetization**

Avci, C.O., K. Garello, A. Ghosh, S. Alvarado, M. Gabureac, I.M. Miron, G. Gaudin, A. Kaidatzis, D. Niarchos and P. Gambardella

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Ultra-sensitive magnetic field sensor**

Baraduc, C., M. Kavaldzhiev, P. Sabon, D. Leroy, N. Dempsey, C. Cavoit, I.L. Prejbeanu and B. Dieny

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Ultra-fast magnetization switching by spin-orbit torques**

Baumgartner, M., K. Garello, C.O. Avci, I.M. Miron, O. Boulle, A. Ghosh, S. Auffret, G. Gaudin and P. Gambardella

Oral: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Study and use of functional binary oxides in devices for spintronics**

Béa, H., S. Auffret, P. Balint, V. Baltz, O. Boulle, C.K. Safeer, M. Cubukcu, B. Dieny, M. Drouard, C. Hamelin, E. Jué, A. Lopez, K. Marty, I.M. Miron, B. Rodmacq, T. Srivastava, A. Trifu and G. Gaudin

Poster: Journées Nationales du GDR OXYFUN, Autrans (France), Jun. 29-Jul. 2 2014

**SmCo<sub>5</sub> (perpendicular)/CoFeB (in-plane) bilayers: Unprecedented isothermal tuning of the magnitude and sign of the exchange bias field**

Bollero, A., F. Pedrosa, J.L.F. Cuñado, J. Camarero, M. Seifert, V. Neu, V. Baltz, D. Serantes, O. Chubykalo-Fesenko, R. Pérez del Real, M. Vasquez, L. Schultz, B. Dieny and R. Miranda

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Domain wall tilting in the presence of the Dzyaloshinskii-Moriya interaction in out-of-plane magnetized magnetic nanotracks**

Buda-Prejbeanu, L.D., O. Boulle, E. Jué, I.M. Miron, G. Gaudin, A. Thiaville, S. Rohart, S. Pizzini and J. Vogel

Poster: 14<sup>th</sup> REIMEI Workshop on Spin Currents and Related Phenomena, Grenoble (France), Feb. 10-13 2014

**Effects of the heating current polarity on the writing of Thermally-Assisted switching-MRAM**

Chavent, A., J. Alvarez-Hérault, C. Portemont, C. Creuzet, J. Pereira, J. Vidal, K. Mackay, R.C. Sousa, I.L. Prejbeanu and B. Dieny

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Effet de la polarité du courant du chauffage sur l'écriture des MRAM**

Chavent, A., J. Alvarez-Hérault, C. Portemont, C. Creuzet, J. Pereira, J. Vidal, K. Mackay, R.C. Sousa, I.L. Prejbeanu and B. Dieny

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Double barrier magnetic tunnel junctions with write/read mode select layer**

Clément, P.-Y., C. Ducruet, I. Joumard, L. Vila, C. Baraduc, M. Chshiev and B. Dieny

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Modulation of spin transfer torque amplitude in double barrier magnetic tunnel junctions**

Clément, P.-Y., C. Ducruet, I. Joumard, L. Vila, C. Baraduc, M. Chshiev and B. Dieny

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**Modulation of spin transfer torque amplitude in double barrier magnetic tunnel junctions**

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Poster: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Modulation of STT amplitude in double barrier magnetic tunnel junctions**

Clément, P.-Y., C. Ducruet, I. Joumard, L. Vila, C. Baraduc, M. Chshiev and B. Dieny  
Poster: 25<sup>th</sup> Magnetic Recording Conference, Berkeley (USA), Aug. 9-17 2014

**Modulation du couple de transfert de spin dans les jonctions tunnel magnétiques à double barrière**

Clément, P.-Y., C. Ducruet, I. Joumard, L. Vila, C. Baraduc, M. Chshiev and B. Dieny  
Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Double barrier magnetic tunnel junctions with write/read mode select layer**

Clément, P.-Y., C. Ducruet, L. Vila, C. Baraduc, M. Chshiev and B. Dieny  
Oral: International Memory Workshop, Taipei (Taiwan), May 18-21 2014

**Spin-orbit torque magnetization switching of a three-terminal perpendicular magnetic tunnel junction**

Cubukcu, M., O. Boulle, M. Drouard, K. Garello, I.M. Miron, J. Langer, B. Ocker, P. Gambardella and G. Gaudin  
Poster: 14<sup>th</sup> REIMEI Workshop on Spin Currents and Related Phenomena, Grenoble (France), Feb. 10-13 2014

**Retournement de l'aimantation induite par couple de spin-orbite dans des jonctions tunnel magnétiques à trois terminaux**

Cubukcu, M., O. Boulle, M. Drouard, K. Garello, I.M. Miron, J. Langer, B. Ocker, P. Gambardella and G. Gaudin  
Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Spin-orbit torque magnetization switching of a three-terminal perpendicular magnetic tunnel junction**

Cubukcu, M., O. Boulle, C. Hamelin, C.O. Avci, M. Drouard, K. Garello, I.M. Miron, J. Langer, B. Ocker, P. Gambardella and G. Gaudin  
Oral: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Current-induced magnetization switching of a three-terminal perpendicular magnetic tunnel junction by spin-orbit torque**

Cubukcu, M., M. Drouard, O. Boulle, K. Garello, I.M. Miron, J. Langer, B. Ocker, P. Gambardella and G. Gaudin  
Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Three-terminal spin-orbit torque MRAM with perpendicular magnetization**

Cubukcu, M., C. Hamelin, O. Boulle, N. Lamard, M. Drouard, K. Garello, I.M. Miron, J. Langer, B. Ocker, P. Gambardella and G. Gaudin  
Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Magnetic thickness dependence of the transport properties of perpendicular magnetic tunnel junctions**

Cuchet, L., B. Rodmacq, S. Auffret, R.C. Sousa and B. Dieny

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Optimisation des propriétés de transport et d'anisotropie de jonctions tunnel magnétiques à anisotropie perpendiculaire**

Cuchet, L., B. Rodmacq, S. Auffret, R.C. Sousa and B. Dieny

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Field dependence of spin transfer torque switching current in perpendicular magnetic tunnel junctions**

Cuchet, L., R.C. Sousa, L. Vila, S. Auffret, B. Rodmacq and B. Dieny

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Design optimization and analysis of hybrid STT-MTJ/CMOS logic circuits under ultra-deep submicron technology process**

Deng, E., W. Kang, J.-O. Klein, D. Ravelosona, B. Dieny, G. Prenat and W.S. Zhao

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Ultra-fast spin-orbit torque (SOT) based memory for processor cache memory replacement**

Di Pendina, G., K. Jabeur, G. Prenat, M. Tahoori, R. Bishnoi, F. Oboril and M. Ebrahimi

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**InMRAM Introductory course on Magnetic Random Access Memories for microelectronics students and engineers**

Di Pendina, G., G. Prenat and B. Dieny

Oral: Summer School, Tallinn (Estonia), Jul. 2-4 2014

**MRAM-based non-volatile asynchronous Muller cell for ultra-low power autonomous applications**

Di Pendina, G., E. Zianbetov and E. Beigne

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Magnetic microswimmers for biotechnological applications**

Dietsch, T., G. Ortiz Hernandez, P. Sabon, H. Joisten and B. Dieny

Poster: 7<sup>th</sup> Workshop on Nano- and Micro-environments for Cell Biology, Grenoble (France), Jan. 30 2014

**Synchronisation d'un STO sur source de courant micro-ondes à  $2\omega$ : Puissance et phase en régime synchronisé**

Dieudonné, C., L.D. Buda-Prejbeanu, M. Zarudniev, M. Tortarolo, J. Hem, M.-C. Cyrille and U. Ebels

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Coupling sensitivity of injection-locked spin torque oscillators at simple and double driving frequencies**

Dieudonné, C., L.D. Buda-Prejbeanu, M. Zarudniev, M. Tortarolo, O. Klein, M.-C. Cyrille and U. Ebels

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**Analysis of injection locking of a standard spin torque oscillator at  $2\omega$**

Dieudonné, C., M. Zarudniev, M. Tortarolo, E. Montebianco, M. Romera, M.-C. Cyrille, B. Dieny, L.D. Buda-Prejbeanu and U. Ebels

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**Current-induced spin-orbit torques in cobalt-platinum-based heterostructures**

Drouard, M., P. Balint, I.M. Miron, O. Boulle, K. Garello, P. Gambardella and G. Gaudin

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**Couples spin-orbite induits par le courant dans des hétérostructures à base de cobalt-platine**

Drouard, M., P. Balint, I.M. Miron, O. Boulle, K. Garello, P. Gambardella and G. Gaudin

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**Improved composite antiferromagnets (<sup>c</sup>AF) and ferromagnet/<sup>c</sup>AF interfaces for spintronics applications**

Frangou, L., K. Akmaldinov, C. Ducruet, S. Bandiera, I. Joumard, B. Dieny and V. Baltz

Poster: FAME MASTER Workshop, Bordeaux (France), Jul. 20-22 2014

**Couples de spin-orbite et hétérostructures ferromagnétiques**

Garello, K., C.O. Avci, A. Ghosh, M. Gabureac, I.M. Miron, O. Boulle, S. Auffret, G. Gaudin and P. Gambardella

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Ultrafast magnetization switching by spin-orbit torques**

Garello, K., C.O. Avci, I.M. Miron, O. Boulle, S. Auffret, P. Gambardella and G. Gaudin

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**Manipulation of current-induced spin-orbit fields by thermal annealing**

Ghosh, A., K. Garello, C.O. Avci, M.S. Gabureac, S. Auffret and P. Gambardella

Poster: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Impurity-induced enhancement of perpendicular magnetic anisotropy and spin polarization in Fe/MgO magnetic tunnel junctions**

Hallal, A., B. Dieny and M. Chshiev

Poster: American Physical Society March Meeting, Denver (USA), Mar. 3-7 2014

**Effet d'un champ électrique sur le courant d'écriture pour des SOT-MRAM à trois terminaux**

Hamelin, C., K. Marty, O. Boulle, I.M. Miron, N. Lamard, J. Langer, B. Ocker and G. Gaudin

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Direct measurement of domain wall type by stray field mapping**

Hingant, T., J.-P. Tetienne, L.J. Martinez, S. Rohart, A. Thiaville, L. Herrera-Diez, J.-V. Kim, K. Garcia, J.-P. Adam, I.M. Miron, G. Gaudin, L. Vila, J.-F. Roch, D. Ravelosona and V. Jacques

Oral: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Measuring the saturation magnetization of ultrathin films with sub-micron resolution using stray field mapping**

Hingant, T., J.-P. Tetienne, L.J. Martinez Rodriguez, J.-F. Roch, K. Garcia, D. Ravelosona, G. Gaudin and V. Jacques

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Direct determination of domain wall type by nano-scale stray field mapping in ultra-thin ferromagnets**

Hingant, T., J.-P. Tetienne, L.J. Martinez Rodriguez, S. Rohart, A. Thiaville, L. Herrera-Diez, K. Garcia, J.-P. Adam, J.-V. Kim, J.-F. Roch, I.M. Miron, G. Gaudin, L. Vila, B. Ocker, D. Ravelosona and V. Jacques

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Mesure directe de parois de Dzyaloshinskii dans des films ultraminces par cartographie du champ magnétique**

Hingant, T., J.-P. Tetienne, S. Rohart, L. Herrera-Diez, J.-V. Kim, K. Garcia, J.-P. Adam, I.M. Miron, G. Gaudin, L.J. Martínez, J.-F. Roch, D. Ravelosona, A. Thiaville and V. Jacques

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**Micro/nano-pinces magnétiques fonctionnalisées et dispersées en solution pour applications biotechnologiques et médicales**

Iss, C., H. Joisten, T. Dietsch, S. Leulmi, M. Morcrette, P. Sabon, Y. Hou-Broutin, T. Livache, J. Faure-Vincent, R. Calemczuk, C. Benoît, D. Peyrade, S. Auffret, E. Gautier and B. Dieny

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**High performance spin-orbit torque (SOT) based on non-volatile standard cell for hybrid CMOS/magnetic ICs**

Jabeur, K., G. di Pendina and G. Prenat

Oral: International Conference on Advanced Technology and Sciences, Antalya (Greece), Aug. 12-15 2014

**Spin-orbit torque (SOT) nanodevices for ultra energy-efficient and non-volatile applications**

Jabeur, K., G. di Pendina and G. Prenat

Oral: International Conference and Exhibition on Nanonoscience and Nanotechnology, Hammamet (Tunisia), Apr. 24-27 2014

**Current-driven magnetization dynamics of a self-polarized synthetic ferrimagnet**

Jenkins, A.S., B. Lacoste, G. Geranton, D. Gusakova, M. Romera, B. Dieny, U. Ebels and L.D. Buda-Prejbeanu

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Current-driven magnetization dynamics of a self-polarised synthetic ferrimagnet**

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Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Interface studies of in-plane magnetized exchange-bias systems using X-ray holography and Heraldo**

Jiménez E., N. Mikuszeit, F. Yakhou-Harris, J. Camarero, J. Vogel, C. Tieg, P. Perna, A. Bollero, B. Rodmacq, E. Gautier, S. Auffret, G. Gaudin and B. Dieny

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 29-Jul. 3 2014

**Nanoparticles for biotechnological and biomedical applications prepared by a top-down approach**

Joisten, H., S. Leulmi, C. Iss, M. Morcrette, T. Dietsch, G. Ortiz Hernandez, Y. Hou-Broutin, L. Livache, R. Calemczuk, M. Carrière, P. Sabon, S. Auffret and B. Dieny

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 29-Jul. 3 2014

**Perpendicular magnetic anisotropy of W-based spin-orbit torque CoFeB/MgO MRAM stacks**

Kaidatzis, A., D. Niarchos, O. Boulle, G. Gaudin, C.O. Avci, K. Garello and P. Gambardella

Poster: 30<sup>th</sup> Pan-Hellenic Conference on Solid-State Physics and Materials Science, Heraklion (Greece), Sep. 21-24 2014

**Theory of intrinsic spin torque due to interface spin-orbit coupling**

Kalitsov, A., M. Chshiev, W.H. Butler and O. Mryasov

Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Theory of the intrinsic spin-orbit torque at the interfaces between 3d and 5d/4d films**

Kalitsov, A., M. Chshiev, W.H. Butler and O. Mryasov

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**Interplay between spin transfer and spin-orbit torques on domain walls at the 5d/3d-alloy interfaces**

Kalitsov, A., S. Okatov, P. Zarzhitsky, M. Chshiev, J.P. Velev, W.H. Butler and O. Myrasov

Poster: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Dynamique de l'aimantation induite par transfert de spin d'une couche libre ferrimagnétique synthétique avec couche de référence fixe**

Lacoste, B., M. Romera, L.D. Buda-Prejbeanu, U. Ebels and B. Dieny

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**Déclenchement de l'apoptose de cellules cancéreuses ciblées par vibrations mécaniques de microparticules antiferromagnétiques synthétiques et vortex**

Leulmi, S., H. Joisten, T. Dietsch, C. Iss, M. Morcrette, P. Sabon, M. Carrière, Y. Hou-Broutin and B. Dieny

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Triggering the apoptosis of targeted cancer cells by the mechanical vibrations of synthetic antiferromagnetic or vortex microparticles**

Leulmi, S., H. Joisten, T. Dietsch, C. Iss, M. Morcrette, P. Sabon, M. Carrière, Y. Hou-Broutin, G. Ortiz, X. Chauchet, B. Toussaint and B. Dieny

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Cancer cells apoptosis induced by magneto-mechanical vibrations of functionalized magnetic vortex particles**

Leulmi, S., H. Joisten, Y. Hou-Broutin, M. Carrière, X. Chauchet and B. Dieny

Poster: 7<sup>th</sup> Workshop on Nano- and Micro-Environments for Cell Biology, Grenoble (France), Jan. 30 2014

**Distributions bimodales de températures de blocage de bicouches ferromagnétique/antiferromagnétique: Simulations numériques Monte-Carlo de l'influence de la microstructure et des interfaces**

Lhoutellier, G., D. Ledue, R. Patte, V. Baltz and F. Barbe

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**Gilbert damping up to 300 GHz in Ni<sub>81</sub>Fe<sub>19</sub>**

Li, Y., A.-L. Barra, S. Auffret, U. Ebels and W.E. Bailey

Poster: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Spin current transmission through Pt, Pd and Ru spin sinks**

Li, Y., A. Gosh, S. Auffret, U. Ebels and W.E. Bailey

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Mesure de l'efficacité des couples de spin dans des tri-couches Pt/Co/AlO<sub>x</sub>**

Lopez, A., A. Trifu, I.M. Miron, O. Boulle, S. Auffret, C.O. Avci, K. Garello, P. Gambardella and G. Gaudin

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Etude de la dynamique des oscillateurs à vortex par synchronisation et modulation de fréquence**

Martin, S.Y., C. Thirion, C. Hoarau, C. Baraduc and B. Dieny

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Study of ultrathin ferromagnetic films using a scanning probe magnetometer based on a single nitrogen-vacancy centre in diamond**

Martínez, L.J., T. Hingant, J.-P. Tetienne, S. Rohart, K. Garcia, L. Herrera-Diez, J.-V. Kim, J.-P. Adam, I.M. Miron, G. Gaudin, J.-F. Roch, D. Ravelosona, A. Thiaville and V. Jacques

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Penetration depth and absorption mechanisms of spin currents in  $\text{Ir}_{80}\text{Mn}_{20}$  and  $\text{Fe}_{50}\text{Mn}_{50}$  polycrystalline films by ferromagnetic resonance and spin pumping**

Merodio Cámara, P., A. Ghosh, C. Lemonias, U. Ebels, M. Chshiev, H. Béa, V. Baltz and W.E. Bailey

Poster: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Penetration depth and absorption mechanisms of spin currents in  $\text{Ir}_{80}\text{Mn}_{20}$  and  $\text{Fe}_{50}\text{Mn}_{50}$  polycrystalline films by ferromagnetic resonance and spin pumping**

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Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Spin transfer torque in antiferromagnetic and ferrimagnetic tunnel junctions**

Merodio Cámara, P., A. Kalitsov, H. Béa, V. Baltz and M. Chshiev

Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Theoretical investigation of spin transfer torque in antiferromagnetic and ferromagnetic tunnel junctions**

Merodio Cámara, P., A. Kalitsov, H. Béa, V. Baltz and M. Chshiev

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Résonance ferromagnétique de grands réseaux de nanostructures couplées**

Mikuszeit, N., A. Marty, B. Viala, J. Alarcon, J.-P. Michel, C. Dubarry, V. Brissoneau, U. Ebels, C. Gourgon, A. Ferchichi and N. Vukadinovic

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Influence of dipolar interaction on the excitation spectra in standard in-plane STO's**

Monteblanco, E., M. Romera, F. Garcia Sanchez, C. Dieudonné, D. Gusakova, B. Dieny, M.-C. Cyrille, L.D. Buda-Prejbeanu and U. Ebels

Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Role of dynamic interactions on the excitation spectra of STOs**

Monteblanco, E., M. Romera, F. Garcia Sanchez, A.S. Jenkins, G. Geranton, B. Lacoste, D. Gusakova, B. Dieny, L.D. Buda-Prejbeanu and U. Ebels

Poster: Skymag Conference, Paris (France), Apr. 9-11 2014

**Magnetic nanoparticles prepared by block copolymers and dedicated to different medical imaging techniques**

Morcrette, M., S. Tallegas, H. Joisten, R. Tiron, T. Baron, S. Lequien, Y. Hou-Broutin, A. Bsiesy and B. Dieny

Poster: Journées Nano-Microtechnologies au service de la Santé, Saint-Etienne (France), Apr. 3-4 2014

**Nanoparticules magnétiques élaborées par copolymères à blocs pour applications biotechnologiques**

Morcrette, M., S. Tallegas, H. Joisten, R. Tiron, T. Baron, S. Lequien, Y. Hou-Broutin, A. Bsiesy and B. Dieny

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Synthesis of mono disperse magnetic nanoparticles prepared on block copolymer templates and dedicated to different imaging techniques**

Morcrette, M., S. Tallegas, H. Joisten, R. Tiron, T. Baron, S. Lequien, I. Joumard, Y. Hou-Broutin, A. Bsiesy and B. Dieny

Poster: 7<sup>th</sup> IEEE Summer School, Rio de Janeiro (Brazil), Aug. 10-15 2014

**Coercivity enhancement due to Peierls potential in antiferromagnetic/ferromagnetic bilayers**

Moritz, J., P. Bacher and B. Dieny

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Systèmes magnéto-mécaniques pour la cartographie de champ magnétique par effet optique**

Ortiz, G., T. Dietsch, C. Iss, S. Leulmi, M. Morcrette, P. Sabon, H. Joisten and B. Dieny

Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Spin transfer torque in spin filter tunnel junctions**

Paujac, C.O., A. Kalitsov, A. Manchon and M. Chshiev

Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Spin transfer torque in spin filter tunnel junctions**

Paujac, C.O., A. Manchon, M. Chshiev and A. Kalitsov

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Asymétrie chirale de la nucléation dans des microstructures de Pt/Co/AlO<sub>x</sub> induite par l'interaction Dzyaloshinskii-Moriya**

Pizzini, S., J. Vogel, S. Rohart, L.D. Buda-Prejbeanu, E. Jué, O. Boulle, I.M. Miron, C.K. Safeer, S. Auffret, G. Gaudin and A. Thiaville

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Characterization of spin torque oscillators based on magnetic tunnel junctions**

Purbawati, A., K. Jaimes Merazzo, R. Hida, J. Hem, M. Tortarolo, C. Dieudonné, R. Ferreira, L. Vila, U. Ebels, M.-T. Delaye and M.-C. Cyrille

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**In-plane and out-of-plane spin precession in lateral spin valves**

Rojas Sanchez, J.C., L. Vila, P. Laczkowski, M. Cubukcu, W. Savero Torres, A. Marty, L. Notin, C. Beigné, C. Vergnaud, M. Jamet and J.-P. Attané  
Poster: Intermag Conference, Dresden (Germany), May 4-8 2014

**Analytical approach to the magnetization dynamics of a two layer coupled system**

Romera, M., B. Lacoste, U. Ebels and L.D. Buda-Prejbeanu  
Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Interplay between conservative and dissipative couplings for spin torque-driven dynamics of a coupled two layer structure**

Romera, M., B. Lacoste, U. Ebels and L.D. Buda-Prejbeanu  
Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Influence of dipolar interaction on the excitation spectra in standard in-plane STOs**

Romera, M., E. Monteblanco, F. Garcia-Sanchez, D. Gusakova, B. Dieny, M.-C. Cyrille, L.D. Buda-Prejbeanu and U. Ebels  
Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Chiral damping of magnetic domain walls**

Safeer, C.K., E. Jué, M. Drouard, A. Lopez, P. Balint, L.D. Buda-Prejbeanu, O. Boulle, S. Auffret, A. Schuhl, I.M. Miron and G. Gaudin  
Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Chiral damping of field-driven magnetic domain walls**

Safeer, C.K., E. Jué, M. Drouard, A. Lopez, P. Balint, L.D. Buda-Prejbeanu, O. Boulle, S. Auffret, A. Schuhl, I.M. Miron and G. Gaudin  
Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Non-Kittel nature of spin wave modes in thin GaMnAsP epilayers**

Shihab, S., L. Thévenard, M. Cubukcu, A. Lemaître and C. Gourdon  
Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Size dependence of magnetic switching in perpendicularly magnetized MgO/Co/Pt pillars close to the spin reorientation transition**

Stefanowicz, W., L.E. Nistor, J. Vogel, W. Kuch, L.D. Buda-Prejbeanu, G. Gaudin, S. Auffret, B. Rodmacq and S. Pizzini  
Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Couplage auto-cohérent par éléments finis du transport polarisé en spin et de la dynamique d'aimantation dans des géométries complexes**

Sturma, M., J.-C. Toussaint and D. Gusakova  
Oral: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Self-consistent finite element approach: Magnetization dynamics induced by spin transfer**

Sturma, M., J.-C. Toussaint and D. Gusakova

Oral: Condensed Matter in Paris, Paris (France), Aug. 24-29 2014

**Geometry effects on spin transport and magnetization dynamics**

Sturma, M., J.-C. Toussaint and D. Gusakova

Poster: Magnetic Single Nano-Object Workshop & School, Nancy (France), Sep. 8-11 2014

**Self-consistent finite-element approach: Magnetization dynamics induced by spin transfer effects**

Sturma, M., D. Gusakova, F. Alouges and J.-C. Toussaint

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Structure et énergie des parois de Dzyaloshinskii sous champ planaire**

Thiaville, A., S. Rohart, J. Miltat, L.D. Buda-Prejbeanu and S. Pizzini

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**Interfacial electronic transport phenomena in single crystalline Fe-MgO-Fe thin barrier junctions**

Tiusan, C., R.B. Gangineni, C. Bellouard, A. Duluard, B. Negulescu, C. Baraduc and G. Gaudin

Oral: Intermag Conference, Dresden (Germany), May 4-8 2014

**Phase noise analysis of a noisy spin torque oscillator synchronized to an external signal**

Tortarolo, M., C. Dieudonné, M. Quinsat, L.D. Buda-Prejbeanu, M.-C. Cyrille and U. Ebels

Oral: 59<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Honolulu (USA), Nov. 3-7 2014

**Injection locking at 2f of spin torque oscillators under influence of noise**

Tortarolo, M., C. Dieudonné, M. Quinsat, L.D. Buda-Prejbeanu, M.-C. Cyrille, J.A. Katine and U. Ebels

Poster: Colloque Louis Néel, Autrans (France), Sep. 23-26 2014

**First-principles investigation of magnetocrystalline anisotropy at full Heusler/MgO interfaces**

Vadapoo, R., A. Hallal and M. Chshiev

Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 3-7 2014

**Hall Effect induced by spin-wave excitation in metal/ferromagnetic insulator bilayer**

Vedyayev, A.V., M.Ye. Zhuravlev, M.S. Titova, N.V. Ryzhanova and D. Gusakova

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 29-Jul. 3 2014

**Influence of Dzyaloshinskii-Moriya interaction on magnetic switching of pillars with perpendicular magnetic anisotropy**

Vogel, J., L.E. Nistor, L.D. Buda-Prejbeanu, W. Kuch, W. Stefanowicz, G. Gaudin, S. Auffret, B. Rodmacq and S. Pizzini

Poster: Skymag Conference, Paris (France), Apr. 9-11 2014

**Anatomy of perpendicular magnetic anisotropy in MgO-based magnetic tunnel junctions from first principles**

Yang, H.X., H. Hallal, B. Dieny and M. Chshiev

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 29-Jul. 3 2014

# 2013

## INVITED PRESENTATIONS

### Towards lower energy control of magnetization for spintronics

Béa, H.

Les 50 ans du Campus CNRS, Grenoble (France), Apr. 10-11 2013

### Electric field control of domain wall nucleation and pinning in a metallic ferromagnet

Bernard-Mantel, A., L. Herrera Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, S. Auffret, O. Boulle, I.M. Miron and G. Gaudin

International French-US Workshop, San Diego (USA), Jul. 8-12 2013

### Imaging magnetization reversal of interfacial exchange coupling

Camarero, J., E. Jiménez, P. Perna, A. Bollero, J.L.F. Cuñado, D. Maccariello, J. Vogel, R. Miranda, F. Yakhou-Harris, G. Gaudin, B. Rodmacq, E. Gautier, S. Auffret, B. Delaup and B. Dieny

58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

### Mechanisms of perpendicular magnetic anisotropy and interlayer exchange coupling in MgO-based tunnel junctions

Chshiev, M.

[American Physical Society March Meeting](#), Baltimore (USA), Mar. 18-22 2013

### Magnetic tunnel junctions: Functional role of each layer

Dieny, B.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2013

### Working principle of various MRAM families

Dieny, B.

Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2013

### Remaining issues in STT-RAM development and guidelines for their optimization

Dieny, B.

2<sup>nd</sup> STT-RAM Global Innovation Workshop, Tokyo (Japan), Nov. 20 2013

### Downsize scalability of STT-RAM

Dieny, B., R.C. Sousa, S. Bandiera, S. Amara-Dababi, L. Cuchet, P.-Y. Clément, B. Rodmacq, C. Baraduc and H. Béa

International French-US Workshop, San Diego (USA), Jul. 8-12 2013

**Downsize scalability of STT-RAM**

Dieny, B., R.C. Sousa, S. Bandiera, S. Amara-Dababi, L. Cuchet, P.-Y. Clément, B. Rodmacq, C. Baraduc and H. Béa

York-Tohoku Research Symposium on Magnetic Materials and Spintronic Devices, York (United Kingdom), Jun. 10-12 2013

**Spin transfer torque random access memories**

Dieny, B., R.C. Sousa, S. Bandiera, S. Amara-Dababi, B. Lacoste, L. Cuchet, S. Auffret, B. Rodmacq and H. Béa

Advanced Metallization Conference, Albany (USA), Oct. 21-23 2013

**Spintronics, spintronics materials, device classes and potential applications**

Ebels, U.

[Erasmus Intensive Programme PLASMAG](#), Poznan (Poland), Jun. 30-Jul. 13 2013

**Spin-orbitronics with skyrmions, spin Hall and Rashba effects**

Fert, A., V. Cros, C. Deranlot, J.-M. George, J. Grollier, H. Jaffrèse, N. Reyren, J. Sampaio, Y. Kawanishi, Y. Niimi, Y. Otani, D.H. Wei, M. Chshiev, S. Rohart, A. Thiaville, H.X. Yang, J.-P. Attané, P. Laczkowski, J.C. Rojas Sanchez, L. Vila, A.V. Khvalkovskiy, J.M. de Teresa and P.M. Levy

International French-US Workshop, San Diego (USA), Jul. 8-12 2013

**Spin-orbit torques in ferromagnetic thin films**

Gaudin, G., I.M. Miron, K. Garello, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, A. Schuhl and P. Gambardella

12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Magnetic nanoparticles for biotechnology and biomedical applications elaborated by a top-down approach**

Joisten, H., P. Sabon, S. Leulmi, T. Dietsch, C. Iss, J. Faure-Vincent, S. Auffret and B. Dieny

BIT's 4<sup>th</sup> Annual World Congress of Nanomedicine, Suzhou (China), Jun. 5-7 2013

**Current-induced domain wall motion in the presence of a magnetic field in Pt/Co/AIO<sub>x</sub> nanostripes**

Jué, E., I.M. Miron, O. Boulle, S. Pizzini, J. Vogel, S. Rohart, A. Thiaville, L.D. Budaprejbeanu, A. Hrabec, M. Bonfim, S. Auffret, A. Schuhl and G. Gaudin

International French-US Workshop, San Diego (USA), Jul. 8-12 2013

**Spin-polarised currents and magnetization textures**

Marrows, C., S. Lepadatu, N. Porter, K.M. Seemann, M. Hickey, V. Baltz, J. Claydon, D. Ciudad, B. Dalton, P. Sinha, M. Ward, R. Brydson, R. Beacham, M. Benitez Romero, D. McGrouther, T. Charlton, C. Kinane, S. Langridge, A. Dobrynin, A. Potenza, H. Marchetto, S.S. Dhesi, S. McVitie, B. Hickey, G. Burnell and T.A. Moore

8<sup>th</sup> International Symposium on Metallic Multilayers, Kyoto (Japan), May 19-24 2013

**Spin-orbit torques in ferromagnetic thin films**

Miron, I.M.

Gordon Research Conference, Hong Kong (China), Aug. 18-23 2013

**Spin-orbit torques in ferromagnetic thin films**

Miron, I.M., K. Garello, E. Jué, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, J. Vogel, S. Pizzini, A. Schuhl and P. Gambardella  
9<sup>th</sup> International Symposium on Hysteresis Modelling and Micromagnetics, Taormina (Italy), May 13-15 2013

**Spin-orbit torques in ferromagnetic thin films**

Miron, I.M., K. Garello, E. Jué, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, J. Vogel, S. Pizzini, A. Schuhl and P. Gambardella  
Materials Research Society Fall Meeting, Boston (USA), Dec. 1-6 2013

**Giant spin Hall Effect induced by skew scattering on high SO impurities in copper**

Niimi, Y., Y. Kawanishi, D.H. Wei, C. Deranlot, H.X. Yang, M. Chshiev, T. Valet, A. Fert and Y. Otani  
12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**MRAM processing**

Nozières, J.-P.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2013

**Magnetic logic functionalities and scalability of thermally-assisted MRAMs**

Prejbeanu, I.L., R.C. Sousa, B. Dieny, J.-P. Nozières, S. Bandiera and K. Mackay  
12<sup>th</sup> Low Voltage-Low Power Conference, Paris (France), Jun. 19-21

**Scalability and logic functionalities of TA-MRAMs**

Prejbeanu, I.L., R.C. Sousa, Q. Stainer, B. Dieny, J.-P. Nozières, S. Bandiera, J. Alvarez-Hérault, L. Lombard and C. Ducruet  
11<sup>th</sup> IEEE International Newcas Conference, Paris (France), Jun. 16-19 2013

**Design tools for CMOS/MTJ integrated electronics**

Prenat, G.  
Introductory Course on Magnetic Random Access Memory, Grenoble (France), Jul. 1-3 2013

**Experimental characterization of non-isochronous properties of spin torque nano-oscillators**

Quinsat, M., F. Garcia Sanchez, V. Tiberkevich, D. Gusakova, A.S. Jenkins, L.D. Buda-Prejbeanu, J.A. Katine, A. Zeltser, B. Dieny, M.-C. Cyrille, A. Slavin and U. Ebels

International Symposium on Spin Waves, Saint-Petersburg (Russia), Jun. 9-15 2013

**GMAG PhD Dissertation Research Award Talk: Experimental characterization of non-isochronous properties of spin torque nano-oscillators**

Quinsat, M., F. Garcia Sanchez, V. Tiberkevich, D. Gusakova, A.S. Jenkins, L.D. Buda-Prejbeanu, J.A. Katine, A. Zeltser, B. Dieny, M.-C. Cyrille, A. Slavin and U. Ebels

[American Physical Society March Meeting](#), Baltimore (USA), Mar. 18-22 2013

### **Exchange bias in multiferroic-based systems**

Safeer, C.K., M. Chamfrault, J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, J.-F. Jacquot, M. Bibes, A. Barthélémy, B. Dieny, V. Baltz and H. Béa  
Eastmag Conference, Vladivostok (Russia), Sep. 15-21 2013

### **Temperature effects in magnetic tunnel junctions and thermally-assisted MRAM concept for sub-20nm scaling**

Sousa, R.C., S. Bandiera, E. Gapihan, L. Lombard, L. San Emeterio Alvarez, L.E. Nistor, L.D. Buda-Prejbeanu, S. Auffret, L. Vila, I.L. Prejbeanu, B. Rodmacq and B. Dieny

Donostia International Conference on Nanoscaled Magnetism and Applications, San Sebastian (Spain), Sep. 9-13 2013

### **Dynamics of Dzyaloshinskii domain walls in ultrathin magnetic films**

Thiaville, A., S. Rohart, E. Jué, V. Cros and A. Fert

8<sup>th</sup> International Symposium on Metallic Multilayers, Kyoto (Japan), May 19-24 2013

## **ORAL AND POSTER PRESENTATIONS**

### **Benefit of (Cu/Pt) intermixing dual barrier for the blocking temperature distribution of Co/(Cu/Pt)/IrMn**

Akmaldinov, K., S. Auffret, I. Joumard, B. Dieny and V. Baltz

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

### **Optimisation des contributions relatives grains-verres de spin aux distributions bimodales de température de blocage de couches minces pour TA-MRAM**

Akmaldinov, K., C. Ducruet, C. Portemont, I. Joumard, S. Auffret, I.L. Prejbeanu, B. Dieny and V. Baltz

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

### **Optimisation des contributions relatives grains-verres de spin aux distributions bimodales de température de blocage de couches minces pour TA-MRAM**

Akmaldinov, K., C. Ducruet, C. Portemont, I. Joumard, S. Auffret, I.L. Prejbeanu, B. Dieny and V. Baltz

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

### **Optimisation des contributions relatives grains-verres de spin aux distributions bimodales de température de blocage de couches minces pour TA-MRAM**

Akmaldinov, K., C. Ducruet, C. Portemont, I. Joumard, S. Auffret, I.L. Prejbeanu, B. Dieny and V. Baltz

Poster: European School on Magnetism, Cargèse (France), Feb. 25-Mar. 8 2013

**Mixing antiferromagnets to tune NiFe-(IrMn/FeMn) interfaces and related TA-MRAM exchange bias dispersions**

Akmaldinov, K., C. Ducruet, C. Portemont, J. Vidal, I. Jourard, I.L. Prejbeanu, B. Dieny and V. Baltz

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Mixing antiferromagnets to tune NiFe-(IrMn/FeMn) interfaces and related TA-MRAM exchange bias dispersions**

Akmaldinov, K., C. Ducruet, C. Portemont, J. Vidal, I. Jourard, I.L. Prejbeanu, B. Dieny and V. Baltz

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Mécanismes de claquage de jonctions tunnel magnétiques à base de MgO et corrélation avec le bruit basse fréquence**

Amara-Dababi, S., H. Béa, R.C. Sousa, C. Baraduc, J. Alvarez-Hérault, K. Mackay and B. Dieny

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Breakdown mechanisms in MgO-based magnetic tunnel junctions and correlation with low-frequency noise**

Amara-Dababi, S., R.C. Sousa, H. Béa, C. Baraduc, K. Mackay and B. Dieny

Oral: 24<sup>th</sup> European Symposium on Reliability of Electron Devices, Failure Physics and Analysis, Arcachon (France), Sep. 30-Oct. 4 2013

**Giant thermo-electric effect in MgO magnetic tunnel junctions asymmetrically heated by hot electron tunneling current**

Amara-Dababi, S., R.C. Sousa, H. Béa, K. Mackay and B. Dieny

Poster: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**3D integrated magnetic sensor**

Aurino, M., Y. Dahmane, P. Sabon, S. Bandiera, S. Auffret, I.L. Prejbeanu and G. Gaudin

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Annealing study of spin-orbit torques in perpendicularly magnetized Ta/CoFeB/MgO layers**

Avci, C.O., K. Garello, I.M. Miron, G. Gaudin and P. Gambardella

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Annealing study of spin-orbit torques in perpendicularly-magnetized Ta/CoFeB/MgO layers**

Avci, C.O., K. Garello, I.M. Miron, G. Gaudin and P. Gambardella

Oral: International Conference on Nanoscale Magnetism, Istanbul (Turkey), Sep. 2-6 2013

**Large rf signal phase offset in ferromagnetic heterostructures**

Bailey, W.E., C. Cheng, S. Auffret, R. Knut, O. Karis, S. Zohar, D. Keavney, P. Warnicke, J.S. Lee and D.A. Arena

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Spin scattering by induced moments in ultrathin paramagnets**

Bailey, W.E., A. Ghosh, S. Auffret, U. Ebels, F. Wilhelm and A. Rogalev

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Contrôle électrique de la nucléation et du piégeage de parois magnétiques dans un métal ferromagnétique**

Bernard-Mantel, A., L. Herrera Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, S. Auffret, O. Boulle, I.M. Miron and G. Gaudin

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Electric field control of domain wall nucleation and pinning in a metallic ferromagnet**

Bernard-Mantel, A., L. Herrera Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, S. Auffret, O. Boulle, I.M. Miron and G. Gaudin

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Electric field control of domain wall nucleation and pinning in a metallic ferromagnet**

Bernard-Mantel, A., L. Herrera Diez, L. Ranno, S. Pizzini, J. Vogel, D. Givord, I.M. Miron, O. Boulle, S. Auffret and G. Gaudin

Oral: 8<sup>th</sup> International Symposium on Metallic Multilayers, Kyoto (Japan), May 19-24 2013

**Control of the magnitude and sign of the hysteresis loop shift for CoFeB (in-plane)/epitaxial-SmCo<sub>5</sub> (perpendicular) bilayers**

Bollero, A., F. Pedrosa, J. Camarero, R. Miranda, M. Seifert, V. Neu, L. Schultz, V. Baltz, B. Dieny, R. Pérez del Real and M. Vasquez

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Isothermal control of the magnitude and sign of the exchange bias field in ferromagnetic bilayers orthogonally coupled**

Bollero, A., F. Pedrosa, J. Camarero, M. Seifert, V. Neu, V. Baltz, D. Serantes, O. Chubykalo-Fesenko, R. Pérez del Real, M. Vasquez, L. Schultz, B. Dieny and R. Miranda

Oral: Donostia International Conference on Nanoscaled Magnetism and Applications, San Sebastian (Spain), Sep. 9-13 2013

**Domain wall dynamics in out-of-plane magnetized magnetic tracks in the presence of Dzyaloshinskii-Moriya interaction**

Boulle, O., I.L. Prejbeanu, E. Jué, I.M. Miron, A. Thiaville, S. Rohart, S. Pizzini, J. Vogel, A. Thiaville and G. Gaudin

Oral: 9<sup>th</sup> International Symposium on Hysteresis Modelling and Micromagnetics, Taormina (Italy), May 13-15 2013

**Domain wall tilting in out-of-plane magnetized magnetic tracks in the presence of Dzyaloshinskii-Moriya interaction**

Boulle, O., S. Rohart, L.D. Buda-Prejbeanu, E. Jué, I.M. Miron, S. Pizzini, J. Vogel, G. Gaudin and A. Thiaville

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Domain wall tilting in magnetic tracks in the presence of Dzyaloshinskii-Moriya interaction**

Boulle, O., S. Rohart, L.D. Buda-Prejbeanu, E. Jué, I.M. Miron, S. Pizzini, J. Vogel, A. Thiaville and G. Gaudin

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Domain wall tilting in the presence of the Dzyaloshinskii-Moriya interaction in out-of-plane magnetized nanotracks**

Buda-Prejbeanu, L.D., O. Boulle, E. Jué, I.M. Miron, G. Gaudin, S. Rohart, A. Thiaville, S. Pizzini and J. Vogel

Oral: ANR Micro-manip, Grenoble (France), Jun. 5-6 2013

**Imaging magnetization reversal of interfacial exchange coupling**

Camarero, J., E. Jiménez, P. Perna, A. Bollero, J.L.F. Cuñado, D. Maccariello, R. Miranda, J. Vogel, C. Tiegs, F. Yakhou-Harris, G. Gaudin, B. Rodmacq, E. Gautier, S. Auffret, B. Delaup and B. Dieny

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Size- and temperature-dependent damping in ferromagnetic ultrathin films: Role of electron scattering time in Ni<sub>81</sub>Fe<sub>19</sub>, Co and CoFeB**

Cheng, C., A. Ghosh, S. Auffret, U. Ebels and W.E. Bailey

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Characterization of double barrier magnetic tunnel junctions by current-in-plane tunnelling**

Clément, P.-Y., C. Ducruet, C. Baraduc, M. Chshiev and B. Dieny

Poster: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Caractérisation en transport longitudinal de jonctions tunnel magnétiques à double barrière**

Clément, P.-Y., C. Ducruet, C. Baraduc, M. Chshiev and B. Dieny

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

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Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

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Poster: IEEE Magnetics Society Summer School, Assisi (Italy), Jun. 9-14 2013

**Three-terminal perpendicular magnetic tunnel junction for spin-orbit torque RAM memory**

Cubukcu, M., O. Boulle, M. Drouard, I.M. Miron, K. Garello, P. Gambardella, B. Ocker, J. Langer, M.-C. Cyrille and G. Gaudin

Poster: International Conference on Nanoscale Magnetism, Istanbul (Turkey), Sep. 2-6 2013

**Spin transport in graphene-based lateral spin valves**

Cubukcu, M., M.B. Martin, P. Laczkowski, C. Vergnaud, A. Marty, C. Beigné, L. Notin, J.-P. Attané, L. Vila, P. Seneor, M. Anane, C. Deranlot, S. Auffret, A. Fert and M. Jamet

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Lateral spin valves with graphene spin channels**

Cubukcu, M., M.B. Martin, C. Vergnaud, P. Laczkowski, A. Marty, S. Auffret, C. Deranlot, P. Seneor, M. Anane, J.-P. Attané, L. Vila, A. Fert and M. Jamet

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Spin signal in various lateral spin valves**

Cubukcu, M., J.C. Rojas Sanchez, P. Laczkowski, C. Vergnaud, L. Vila, J.-P. Attané, A. Marty and M. Jamet

Oral: International Conference on Nanoscale Magnetism, Istanbul (Turkey), Sep. 2-6 2013

**Influence de l'insert de Ta sur les propriétés magnétiques et de transport de jonctions tunnel magnétiques à aimantation perpendiculaire**

Cuchet, L., B. Rodmacq, S. Auffret, C. Ducruet, S. Bandiera, R.C. Sousa and B. Dieny

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Influence of Ta insertion on the magnetic and transport properties of perpendicular tunnel junctions**

Cuchet, L., B. Rodmacq, S. Auffret, C. Ducruet, S. Bandiera, R.C. Sousa and B. Dieny

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Development of magnetic tunnel junctions with perpendicular anisotropy: Influence of Ta insertion on the magnetic and transport properties**

Cuchet, L., B. Rodmacq, S. Auffret, C. Ducruet, S. Bandiera, R.C. Sousa and B. Dieny

Poster: European School on Magnetism, Cargèse (France), Feb. 25-Mar. 8 2013

**Influence of a metallic spacer on the magnetic and transport properties of perpendicular tunnel junctions**

Cuchet, L., B. Rodmacq, S. Auffret, R.C. Sousa, C. Ducruet and B. Dieny

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**Influence of Dzyaloshinskii-Moriya interaction on spin transfer torque**

Deus da Silva, F., C. Lacroix and M. Chshiev

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**STT-MRAM for low-power non-volatile logic ASIC applications**

Di Pendina, G., G. Prenat and B. Dieny

Oral: Design Automation Conference, Austin (USA), Jun. 2-6 2013

**Mémoires magnétiques et dispositifs**

Dieny, B.

Oral: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Micro/nano-nageurs magnétiques pour applications biotechnologiques**

Dietsch, T., S. Leulmi, C. Iss, H. Joisten, P. Sabon and B. Dieny

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Anatomy of spin-orbit torques in asymmetric heterostructures**

Drouard, M., I.M. Miron, O. Boulle, K. Garello, P. Gambardella and G. Gaudin

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Dynamique de l'aimantation**

Ebels, U.

Oral: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Spin-orbitronics**

Fert, A., V. Cros, C. Deranlot, J.-M. George, J. Grollier, H. Jaffrè, N. Reyren, J. Sampaio, K. Kawanishi, Y. Niimi, Y. Otani, D.H. Wei, M. Chshiev, S. Rohart, A. Thiaville, H.X. Yang, J.-P. Attané, P. Laczkowski, J.C. Rojas Sanchez, L. Vila, A.V. Khvalkovskiy and J.M. de Teresa

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Spin-orbitronics**

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Oral: Spin-Orbit Torque Workshop, Thuwal (Saudi Arabia), Feb. 23-28 2013

**Perpendicular magnetic anisotropy driven by annealing and measurement temperatures in Pt/Co/MgO**

Fettar, F., H.M. Garad, L. Ortega, O. Proux, B. Dieny, S. Auffret and B. Rodmacq

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Influence of perpendicular spin torque on the dynamics of a synthetic antiferromagnet-based spin transfer oscillator**

Firastrau, I., L.D. Buda-Prejbeanu and U. Ebels

Poster: Nanosmat Conference, Granada (Spain), Sep. 22-25 2013

**Estimation of the amplitude-phase coupling parameter from the linewidth in spin transfer oscillators**

Garcia Sanchez, F., J.F. Sierra Garcia, M. Quinsat, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu, B. Dieny and U. Ebels

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Non-linear effects on the linewidth of spin torque oscillators**

Garcia Sanchez, F., J.F. Sierra Garcia, M. Quinsat, U. Ebels, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu and B. Dieny

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Estimation of the amplitude-phase coupling parameter from the linewidth of spin transfer oscillators: Normalized temperature method**

Garcia Sanchez, F., J.F. Sierra Garcia, M. Quinsat, D. Gusakova, L.D. Buda-Prejbeanu, B. Dieny and U. Ebels

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Symmetry and magnitude of spin-orbit torques in ferromagnetic heterostructures**

Garello, K., A. Gosh, I.M. Miron, C.O. Avci, F. Freimuth, Y. Mokrousov, S. Blügel, S. Auffret, O. Boulle, G. Gaudin and P. Gambardella

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Oral: International Conference on Nanoscale Magnetism, Istanbul (Turkey), Sep. 2-6 2013

## **Dynamique des parois magnétiques**

Gaudin, G. and J.-P. Attané

Oral: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

## **Non-volatile runtime-reconfigurable FPGA secured through MRAM-based periodic refresh**

Gonçalves, O., G. Prenat, G. di Pendina, C. Layer and B. Dieny

Poster: 5<sup>th</sup> IEEE International Memory Workshop, Monterey (USA), May 26-29 2013

## **Radiation-hardened MRAM-based FPGA**

Gonçalves, O., G. Prenat and B. Dieny

Poster: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

## **Transport dépendant du spin et dynamique d' aimantation - simulations**

Gusakova, D.

Oral: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

## **Maximizing the perpendicular magnetic anisotropy in Fe|MgO magnetic tunnel junctions by impurities addition: Ab-initio calculations**

Hallal, A., B. Dieny and M. Chshiev

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## **Magnetic insulators-induced proximity effects in graphene**

Hallal, A., H.X. Yang, D. Terrade, X. Waintal, S. Roche and M. Chshiev

Oral: [American Physical Society March Meeting](#), Baltimore (USA), Mar. 18-22 2013

## **Magnetic micro/nano-tweezers functionalized for biological and medical applications**

Iss, C., H. Joisten, T. Dietsch, S. Leulmi, M. Morcrette, S. Auffret, E. Gautier, P. Sabon, Y. Hou-Broutin, T. Livache, J. Faure-Vincent, R. Calemczuk, C. Benoît, D. Peyrade and B. Dieny

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

## **Micro/nano-pinces magnétiques fonctionnalisées et dispersées en solution pour applications biotechnologiques et médicales**

Iss, C., H. Joisten, T. Dietsch, S. Leulmi, P. Sabon, Y. Hou-Broutin, L. Livache, J. Faure-Vincent, R. Calemczuk, C. Benoît, D. Peyrade, S. Auffret, E. Gautier and B. Dieny

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

## **Magnetic micro/nano-tweezers functionalized and dispersed in solution for biological and medical applications**

Iss, C., H. Joisten, T. Dietsch, S. Leulmi, P. Sabon, Y. Hou-Broutin, L. Livache, J. Faure-Vincent, R. Calemczuk, C. Benoît, D. Peyrade, S. Auffret, E. Gautier and B. Dieny

Poster: IEEE Summer School, Assisi (Italy), Jun. 10-14 2013

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Poster: Journées ANR J3N, Marseille (France), Nov. 4-6 2013

**Study of two writing schemes for a magnetic tunnel junction based on spin-orbit torque**

Jabeur, K., G. di Pendina, G. Prenat and L.D. Buda-Prejbeanu

Oral: International Conference on Circuits, Devices and Systems, Kuala Lumpur (Malaysia), Aug. 22-23 2013

**Magnetic RAM based on spin-orbit torque: Study of two writing schemes**

Jabeur, K., G. di Pendina, G. Prenat and L.D. Buda-Prejbeanu

Oral: International Workshop on Semiconductor Devices, Circuits and Systems, Barcelona (Spain), Sep. 12-14 2013

**Compact model of a three-terminal MRAM device based on spin-orbit torque switching**

Jabeur, K., G. di Pendina, G. Prenat, L.D. Buda-Prejbeanu, I.L. Prejbeanu and B. Dieny

Oral: International Semiconductor Conference Dresden-Grenoble, Dresden (Germany), Sep. 26-27 2013

**Nanofabrication of spin torque oscillators based on spin valves and MTJ's**

Jaimes Merazzo, K., K.L. Garcia Hernandez, E. Montebelanco, U. Ebels, A.S. Jenkins, J. Feng, M.-C. Cyrille, M.-T. Delaye and L. Vila

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Spin torque oscillators based on spin valves and magnetic tunnel junctions**

Jaimes Merazzo, K., M. Tortarolo, C. Dieudonné, E. Montebelanco, M. Romera, J. Hem, A. Purbawati, L.D. Buda-Prejbeanu, D. Gusakova, M.-C. Cyrille and U. Ebels

Oral: 8<sup>th</sup> Symposium on Advanced Materials Science and Nanotechnology, San José (Costa Rica), Dec. 9-12 2013

**Transition from spin accumulation into interface states to spin injection in the Ge and Si conduction bands**

Jain, A., J.C. Rojas Sanchez, M. Cubukcu, J. Peiro, J.-C. Le Breton, E. Prestat, C. Vergnaud, C. Portemont, C. Ducruet, V. Baltz, A. Barski, P. Bayle-Guillemaud, L. Vila, J.-P. Attané, E. Augendre, G. Desfonds, S. Gambarelli, H. Jaffrè, J.-M. George and M. Jamet

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Transition from spin accumulation into interface states to spin injection in the Ge conduction band**

Jamet, M., A. Jain, C. Vergnaud, J. Peiro, J.-C. Le Breton, E. Prestat, L. Louahadj, C. Portemont, C. Ducruet, V. Baltz, A. Marty, A. Barski, P. Bayle-Guillemaud, L. Vila, J.-P. Attané, E. Augendre, H. Jaffrèse and J.-M. George

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Full phase diagram of spin torque oscillators with perpendicular polariser**

Jenkins, A.S., J.F. Sierra Garcia, F. Garcia Sanchez, M. Quinsat, B. Rodmacq, B. Delaët, B. Dieny, M.-C. Cyrille and U. Ebels

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Extended phase diagram of spin torque oscillators with perpendicular polariser**

Jenkins, A.S., J.F. Sierra Garcia, F. Garcia Sanchez, M. Quinsat, B. Rodmacq, B. Delaët, B. Dieny, M.-C. Cyrille and U. Ebels

Oral: Donostia International Conference on Nanoscaled Magnetism and Applications, San Sebastian (Spain), Sep. 9-13 2013

**Etude du déplacement de parois magnétiques sous courant en présence d'un champ transverse dans les multicoques Pt/Co/AIO<sub>x</sub>**

Jué, E., A. Hrabec, O. Boulle, I.M. Miron, S. Auffret, B. Rodmacq, S. Bandiera, S. Pizzini, J. Vogel, A. Schuhl and G. Gaudin

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Current-induced domain walls motion in the presence of spin-orbit torque in Pt/Co/AIO<sub>x</sub> trilayers**

Jué, E., A. Hrabec, O. Boulle, I.M. Miron, S. Auffret, B. Rodmacq, S. Bandiera, S. Pizzini, J. Vogel, A. Schuhl and G. Gaudin

Poster: Spin-Orbit Torque Workshop, Thuwal (Saudi Arabia), Feb. 23-28 2013

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Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Current-induced domain wall motion in ultra-thin layer with strong spin-orbit interaction**

Jué, E., I.M. Miron, O. Boulle, S. Pizzini, J. Vogel, A. Thiaville, S. Rohart, L.D. Budapesteanu, S. Auffret, A. Hrabec, M. Bonfim and G. Gaudin

Poster: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Current- and field-induced domain wall motion in ultra-thin magnetic layer with strong spin-orbit interaction**

Jué, E., I.M. Miron, O. Boulle, S. Pizzini, J. Vogel, A. Thiaville, S. Rohart, L.D. Buda-Prejbeanu, A. Lopez, S. Auffret, M. Bonfim, A. Schuhl and G. Gaudin

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Ultra-sensitive MTJ-based magnetic field sensor**

Kavalczhiev, M., P. Sabon, N. Dempsey, D. Le Roy, C. Cavoit, C. Baraduc, I.L. Prejbeanu and B. Dieny

Poster: 39<sup>th</sup> International Conference on Micro- and Nano-Engineering, London (United Kingdom), Sep. 16-19 2013

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Kavalczhiev, M., P. Sabon, D. Le Roy, N. Dempsey, C. Cavoit, C. Baraduc, I.L. Prejbeanu and B. Dieny

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Control of sub-nanosecond precessional switching in STT-RAM cells**

Lacoste, B., R.C. Sousa, L.D. Buda-Prejbeanu, M. Marins de Castro Souza, T. Devolder, C. Ducruet, A. Chavent, A. Mejdoubi, S. Auffret, U. Ebels, B. Rodmacq and B. Dieny

Poster: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Retournement ultra-rapide et sans oscillations dans une jonction tunnel planaire avec polariseur perpendiculaire**

Lacoste, B., R.C. Sousa, M. Marins de Castro Souza, T. Devolder, L.D. Buda-Prejbeanu, S. Auffret, U. Ebels, C. Ducruet, L. Vila, B. Rodmacq and B. Dieny

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Atom probe tomography direct imaging of thermally activated atomic diffusions through grain boundaries for exchange biased stacks**

Letellier, F., L. Lechevallier, R. Lardé, J.-M. Le Breton, K. Akmaldinov, V. Baltz, S. Auffret and B. Dieny

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Caractérisation à l'échelle atomique de multicoques magnétiques (Cu/Co/IrMn)<sub>5</sub>/Pt par sonde atomique tomographique: Corrélation avec les propriétés magnétiques**

Letellier, F., L. Lechevallier, R. Lardé, J.-M. Le Breton, V. Baltz, B. Rodmacq and B. Dieny

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Comparaison de l'auto-polarisation/dispersion de particules magnétiques antiferromagnétiques synthétiques et vortex pour la destruction de cellules cancéreuses par vibrations de quelques Hz**

Leulmi, S., T. Dietsch, C. Iss, Y. Hou-Broutin, J. Faure-Vincent, J.-C. Le Breton, S. Sauvaigo, T. Douki, H. Joisten, P. Sabon, S. Auffret and B. Dieny

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Comparison of self-polarization effects in synthetic antiferromagnetic and vortex magnetic microparticles and their use for triggering cancer cells apoptosis**

Leulmi, S., H. Joisten, T. Dietsch, C. Iss, M. Morcrette, P. Sabon, M. Carrière, Y. Hou-Broutin and B. Dieny

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Mémoires basées sur la manipulation de parois de domaines dans des multicouches magnétiques à effet Rashba**

Lopez, A., O. Boulle, I.M. Miron and G. Gaudin

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Spin torque efficiency measurement in Pt/Co/AIO trilayers**

Lopez, A., A. Trifu, I.M. Miron, O. Boulle, S. Auffret, C.O. Avci, K. Garello and G. Gaudin

Poster: Gordon Research Conference, Hong Kong (China), Jul. 28-Aug. 2 2013

**Two-tone experiment in a vortex spin torque nano-oscillator**

Martin, S., C. Thirion, C. Hoarau, C. Baraduc and B. Dieny

Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Modulation de fréquence et analyse bitonale sur des nano-oscillateurs à vortex magnétique**

Martin, S., C. Thirion, C. Hoarau, C. Baraduc and B. Dieny

Oral: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Tunability versus deviation sensitivity in a non-linear vortex oscillator**

Martin, S., C. Thirion, C. Hoarau, C. Baraduc and B. Dieny

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Effet du champ électrique sur le couple spin-orbite dans des multicouches Pt/Co/AIO<sub>x</sub>**

Marty, K., G. Gaudin, I.M. Miron, O. Boulle, M. Drouard and S. Auffret

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Effet du champ électrique sur le couple spin-orbite dans des multicouches Pt/Co/AIO<sub>x</sub>**

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Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Transport dépendant du spin et matériaux antiferromagnétiques**

Merodio Cámara, P., A. Ghosh, U. Ebels, W.E. Bailey, C. Lemonias, M. Chshiev, H. Béa and V. Baltz

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Poster: European School on Magnetism, Cargèse (France), Feb. 25-Mar. 8 2013

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Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Thin and ultrathin cobalt films on nanoporous substrates: Magnetometry and position annihilation studies**

Metaxas, P.J., P. Guagliardo, V. Baltz, C. Chang, M. Kostylev, S. Samarin, J.F. Williams, X. Sun, M. Lai, A. Keating, N. Oshima, R. Suzuki and A. Uedono

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Ferromagnetic resonance in nano-structured surfaces for microwave applications**

Mikuszeit, N., B. Viala, J. Alarcon, J.-P. Michel, C. Dubarry, V. Brissoneau, U. Ebels, A. Marty, C. Gourgon, A. Ferchichi and N. Vukadinovic

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Spin-orbit torques in ferromagnetic thin films**

Miron, I.M., K. Garello, E. Jué, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, J. Vogel, S. Pizzini, A. Schuhl and P. Gambardella

Oral: Spin-Orbit Torque Workshop, Thuwal (Saudi Arabia), Feb. 23-28 2013

**Spin torque-driven excitations in synthetic antiferromagnets**

Montebianco, E., F. Garcia Sanchez, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu, U. Ebels, M.-C. Cyrille, B. Dieny, A. Zeltser and J.A. Katine

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Role of dipolar fields in spin torque-driven excitations of a synthetic ferrimagnet**

Montebianco, E., F. Garcia Sanchez, A.S. Jenkins, D. Gusakova, M. Romera, K. Jaimes Merazzo, A. Zeltser, J.A. Katine, L.D. Buda-Prejbeanu, M.-C. Cyrille, B. Dieny and U. Ebels

Poster: Magnonics Conference, Varberg (Sweden), Aug. 4-8 2013

**Spin torque-driven excitations in synthetic ferrimagnets**

Monteblanco, E., F. Garcia Sanchez, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu, U. Ebels, M.-C. Cyrille, B. Dieny, A. Zelster and J.A. Katine  
Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Influence of the interlayer coupling on the spin torque-driven excitations in a STO**

Monteblanco, E., M. Romera, F. Garcia Sanchez, C. Dieudonné, D. Gusakova, L.D. Buda-Prejbeanu, M.-C. Cyrille and U. Ebels  
Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Renversement de l'aimantation en fonction de la taille de plots magnétiques avec faible anisotropie perpendiculaire**

Nistor, L.E., W. Stefanovicz, J. Vogel, G. Gaudin, S. Auffret, B. Rodmacq and S. Pizzini  
Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Highly asymmetric magnetic domain wall propagation due to coupling to a periodic pinning potential**

Novak, R.L., P.J. Metaxas, J.-P. Jamet, R. Weil, J. Ferré, A. Mougin, S. Rohart, R.L. Stamps, P.-J. Zermatten, G. Gaudin, V. Baltz and B. Rodmacq  
Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Domain growth and dipolar bias in magnetic thin films coupled to a periodic pinning potential**

Novak, R.L., P.J. Metaxas, S. Rohart, R. Weil, J.-P. Jamet, A. Mougin, J. Ferré, R.L. Stamps, P.-J. Zermatten, G. Gaudin, V. Baltz and B. Rodmacq  
Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**How to explain the induced perpendicular anisotropy from Pt thickness and annealing in Ta/Pt/Co/MgO**

Ortega, L., H.M. Garad, F. Fettar, B. Rodmacq, S. Auffret and B. Dieny  
Poster: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Diffusive Rashba spin torque in ferromagnetic heterostructures**

Paujac, C.O., X.H. Wang, M. Chshiev and A. Manchon  
Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**Diffusive Rashba spin torque in ferromagnetic heterostructures**

Paujac, C.O., X.H. Wang, M. Chshiev and A. Manchon  
Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Non-volatile FPGAs based on spintronic devices**

Prenat, G., O. Gonçalves, G. di Pendina and B. Dieny  
Oral: Design Automation Conference, Austin (USA), Jun. 2-6 2013

**Modulation bandwidth of spin transfer oscillators**

Quinsat, M., A.S. Jenkins, F. Garcia Sanchez, C. Dieudonné, J.F. Sierra Garcia, J.A. Katine, A. Zeltser, B. Dieny, A. Slavin, V. Tiberkevich, M.-C. Cyrille and U. Ebels  
Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Determination of the frequency agility of spin transfer oscillators**

Quinsat, M., A.S. Jenkins, F. Garcia Sanchez, J.F. Sierra Garcia, C. Dieudonné, A. Zeltser, B. Dieny, J.A. Katine, M.-C. Cyrille and U. Ebels  
Oral: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

**Modulation bandwidth of spin transfer oscillators**

Quinsat, M., A.S. Jenkins, F. Garcia Sanchez, C. Dieudonné, J.F. Sierra Garcia, M. Tortarolo and U. Ebels  
Poster: Magnonics Conference, Varberg (Sweden), Aug. 4-8 2013

**Dynamique d'une paroi de Dzyaloshinskii dans une piste magnétique**

Rohart, S., O. Boulle, L.D. Buda-Prejbeanu, E. Jué and A. Thiaville  
Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Field- and current-induced motion of Dzyaloshinskii domain walls**

Rohart, S., A. Thiaville, J. Miltat, E. Jué, O. Boulle, V. Cros and A. Fert  
Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Hanle effect with in-plane magnetic fields in metallic lateral spin valves**

Rojas Sanchez, J.C., P. Laczkowski, W. Savero Torres, M. Cubukcu, L. Vila, A. Marty, M. Jamet and J.-P. Attané  
Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Influence of Mn doping on the bimodal distribution of blocking temperature for multiferroic epitaxial BiFe<sub>1-x</sub>Mn<sub>x</sub>O<sub>3</sub>/CoFeB bilayers**

Safeer, C.K., J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, J.-F. Jacquot, M. Bibes, A. Barthélémy, B. Dieny, H. Béa and V. Baltz  
Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Characterization of MTJs for MRAM applications**

San Emeterio Alvarez, L., B. Lacoste, L.E. Nistor, B. Rodmacq, C. Ducruet and R.C. Sousa  
Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Spin transfer torque switching in the bistable region with alternating polarity pulses**

San Emeterio Alvarez, L., B. Lacoste, B. Rodmacq, C. Ducruet and R.C. Sousa  
Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Spin transfer torque switching in the bistable region with alternating polarity pulses**

San Emeterio Alvarez, L., B. Lacoste, B. Rodmacq, C. Ducruet and R.C. Sousa  
Poster: Donostia International Conference on Nanoscaled Magnetism and Applications, San Sebastian (Spain), Sep. 9-13 2013

**Field-current phase diagrams of in-plane STTRAM cells with low effective magnetization storage layers**

San Emeterio Alvarez, L., B. Lacoste, B. Rodmacq, L.E. Nistor, M. Pakala, R.C. Sousa and B. Dieny  
Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Switchable spin-current source controlled by magnetic domain walls**

Savero Torres, W., P. Laczkowski, V. Nguyen, J.C. Rojas Sanchez, C. Nguyen, L. Vila, A. Marty, C. Beigné, L. Notin, M. Jamet and J.-P. Attané  
Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**MRAM concepts for sub-nanosecond precessional switching and sub-20nm cell scaling**

Sousa, R.C., S. Bandiera, M. Marins de Castro Souza, B. Lacoste, L. San Emeterio Alvarez, L.E. Nistor, S. Auffret, U. Ebels, C. Ducruet, I.L. Prejbeanu, L. Vila, B. Rodmacq and B. Dieny  
Oral: International Semiconductor Conference Dresden-Grenoble, Dresden (Germany), Sep. 26-27 2013

**MRAM with soft reference layer: In-stack combination of memory and logic functions**

Stainer, Q., L. Lombard, K. Mackay, R.C. Sousa, I.L. Prejbeanu and B. Dieny  
Oral: 5<sup>th</sup> IEEE International Memory Workshop, Monterey (USA), May 26-29 2013

**Size dependence of magnetic switching in perpendicular pillars close to the spin reorientation transition**

Stefanowicz, W., L.E. Nistor, S. Pizzini, W. Kuch, V.D. Nguyen, G. Gaudin, S. Auffret, B. Rodmacq and J. Vogel  
Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Magnetization dynamics induced by spin transfer effects: Self-consistent finite element approach**

Sturma, M., D. Gusakova, F. Alouges and J.-C. Toussaint  
Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Simulation de la dynamique de l'aimantation soumise aux effets de transfert de spin en présence d'un fort courant inhomogène**

Sturma, M., D. Gusakova, F. Alouges and J.-C. Toussaint  
Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Magnetization dynamics induced by spin transfer effects: Self-consistent finite element approach**

Sturma, M., J.-C. Toussaint, D. Gusakova and F. Alouges

Oral: 9<sup>th</sup> International Symposium on Hysteresis Modelling and Micromagnetics, Taormina (Italy), May 13-15 2013

**Magnetization dynamics induced by spin transfer effects: Self-consistent finite element approach**

Sturma, M., J.-C. Toussaint, D. Gusakova and F. Alouges

Poster: IEEE Summer School, Assisi (Italy), Jun. 9-14 2013

**Quantitative magnetic imaging of ultrathin wires using a scanning NV-center microscope**

Tetienne, J., T. Hingant, S. Rohart, A. Thiaville, L. Herrera Diez, K.L. Garcia Hernandez, J. Kim, D. Ravelosona, E. Jué, O. Boulle, I.M. Miron, G. Gaudin, J. Roch and V. Jacques

Poster: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**On the role of Dzyaloshinskii domain walls in ultrathin magnetic films**

Thiaville, A., S. Rohart, E. Jué, V. Cros and A. Fert

Oral: Spin-Orbit Torque Workshop, Thuwal (Saudi Arabia), Feb. 23-28 2013

**Etude micromagnétique 1D de la paroi de Dzyaloshinskii**

Thiaville, A., S. Rohart, E. Jué, V. Cros and A. Fert

Poster: Colloque Louis Néel, Tours (France), Mar. 20-22 2013

**Large blocking temperature in  $(\text{Pt}/\text{Co})_3/\text{IrMn}/\text{Co}$  and  $(\text{Pd}/\text{Co})_3/\text{IrMn}/\text{Co}$  trilayers with ultrathin IrMn layer**

Vinai, G., J. Moritz, S. Bandiera, I.L. Prejbeanu and B. Dieny

Poster: Journée Spintronique et Nanomagnétisme à Grenoble, Noyarey (France), Feb. 21 2013

**Exchange bias enhancement in  $[\text{Pt}(\text{Pd})/\text{Co}]/\text{IrMn}/\text{Co}$  trilayers with ultrathin IrMn through Cu interlayer**

Vinai, G., J. Moritz, S. Bandiera, I.L. Prejbeanu and B. Dieny

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Focussed Kerr measurements on patterned arrays of exchange-biased square dots**

Vinai, G., J. Moritz, G. Gaudin, J. Vogel, I.L. Prejbeanu and B. Dieny

Oral: Joint European Magnetic Symposia, Rhodes (Greece), Aug. 25-30 2013

**First-principles study of perpendicular magnetic anisotropy in  $\text{Fe}|\text{MgO}|\text{Fe}$  magnetic tunnel junctions**

Yang, H.X., A. Hallal, B. Dieny and M. Chshiev

Poster: International French-US Workshop, San Diego (USA), Jul. 8-12 2013

**Emergence of magnetism in graphene by means of magnetic-insulator proximity**

Yang, H.X., A. Hallal, D. Terrade, X. Waintal, S. Roche and M. Chshiev

Oral: 58<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Denver (USA), Nov. 4-8 2013

**Modelling stochastic behaviors of spin transfer torque in magnetic tunnel junction for memory and logic electrical simulation**

Zhang, Y., W.S. Zhao, T. Devolder, J.-O. Klein, G. Prenat, J.S. Kim, C. Chappert, B. Dieny and D. Ravelosona

Poster: 12<sup>th</sup> Joint MMM-Intermag Conference, Chicago (USA), Jan. 14-18 2013

# 2012

## INVITED PRESENTATIONS

### **Barrier breakdown mechanisms in MgO-based magnetic tunnel junctions under pulsed conditions and correlation with low-frequency noise**

Amara-Dababi, S., H. Béa, R.C. Sousa, C. Baraduc and B. Dieny  
Spie Conference, Spintronics V, San Diego (USA), Aug. 12-16 2012

### **Ultimate downsize scalability of perpendicular STT MRAM thanks to thermal assistance**

Bandiera, S., R.C. Sousa, M. Marins de Castro Souza, C. Ducruet, C. Portemont, S. Auffret, L. Vila, I.L. Prejbeanu and B. Dieny  
Intermag Conference, Vancouver (Canada), May 7-11 2012

### **Sub-20nm scalability issues in MRAM**

Dieny, B., R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, S. Auffret, B. Rodmacq, L.E. Nistor, I.L. Prejbeanu, C. Ducruet, K. Mackay and J.-P. Nozières  
Materials Research Society Spring Meeting, San Francisco (USA), Apr. 9-13 2012

### **STT, thermally-assisted MRAM and hybrid CMOS/MTJ electronics**

Dieny, B.  
4<sup>th</sup> International Memory Workshop, Milano (Italy), May 20-23 2012

### **De la dynamique de l'aimantation induite par courant polarisé en spin vers des oscillateurs micro-ondes**

Ebels, U.  
Journées Nationales en Nanosciences et en Nanotechnologies, Bordeaux (France), Nov. 7-9 2012

### **Fabrication and control of synthetic antiferromagnetic nanoparticles released in solution for biological applications**

Joisten, H., P. Sabon, S. Leulmi, T. Dietsch, C. Iss, J. Faure-Vincent, S. Auffret and B. Dieny  
Intermag Conference, Vancouver (Canada), May 7-11 2012

### **High speed MRAM using a perpendicular polarizer for spin transfer precessional switching**

Marins de Castro Souza, M., R.C. Sousa, S. Bandiera, B. Lacoste, C. Ducruet, S. Auffret, I.L. Prejbeanu, U. Ebels, C. Portemont, L.D. Buda-Prejbeanu, B. Rodmacq and B. Dieny  
International Conference on Superconductivity and Magnetism, Istanbul (Turkey), Apr. 29-May 4 2012

### **Sub-200ps writing in precessional STT RAM**

Marins de Castro Souza, M., B. Lacoste, R.C. Sousa, T. Devolder, L.D. Buda-Prejbeanu, A. Medjoubi, G. Prenat, S. Auffret, U. Ebels, C. Ducruet, I.L. Prejbeanu, L. Vila, B. Rodmacq and B. Dieny

International Conference of the Asian Union of Magnetics Societies, Nara (Japan), Oct. 2-5 2012

### **Extended scalability and functionalities of MRAM based on thermally-assisted writing**

Prejbeanu, I.L., J. Alvarez-Héault, E. Gapihan, L. Lombard, C. Ducruet, C. Portemont, K. Mackay, R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, J.-P. Nozières and B. Dieny

European Materials Research Society Spring Meeting, Strasbourg (France), May 14-18 2012

### **Linenwidth broadening in tunnel junction spin torque oscillators**

Quinsat, M., J.F. Sierra Garcia, D. Gusakova, F. Garcia Sanchez, V. Tiberkevich, A. Slavin, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu, B. Dieny and J.A. Katine

International Conference on Superconductivity and Magnetism, Istanbul (Turkey), Apr. 29-May 4 2012

### **Exchange bias with multiferroic BiFeO<sub>3</sub> epitaxial thin films**

Safeer, C.K., M. Chamfrault, J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, J.-F. Jacquot, M. Bibes, A. Barthélémy, B. Dieny, V. Baltz and H. Béa

Materials Research Society Fall Meeting, Boston (USA), Nov. 25-30 2012

## **ORAL AND POSTER PRESENTATIONS**

### **Barrier breakdown mechanism in MgO-based magnetic tunnel junctions and correlation with low-frequency noise**

Amara-Dababi, S., H. Béa, R.C. Sousa, C. Baraduc and B. Dieny

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

### **Barrier breakdown mechanism in MgO-based magnetic tunnel junctions and correlation with low-frequency noise**

Amara-Dababi, S., H. Béa, R.C. Sousa and B. Dieny

Oral: 4<sup>th</sup> IEEE International Memory Workshop, Milano (Italy), May 20-23 2012

### **Magnetization switching of a MgO-based ferromagnetic layer by in-plane current injection**

Avci, C.O., K. Garello, I.M. Miron, G. Gaudin, S. Auffret, O. Boulle and P. Gambardella

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

### **Coupling-based resistive open defects in TAS-MRAM architectures**

Azevedo, J., A. Virazel, A. Bosio, L. Dilillo, P. Girard, A. Todri, G. Prenat, J. Alvarez-Héault and K. Mackay

Poster: 17<sup>th</sup> IEEE European Test Symposium, Annecy (France), May 28-Jun. 1 2012

**Impact of resistive open defects on the heat current of TAS-MRAM architectures**

Azevedo, J., A. Virazel, A. Bosio, L. Dilillo, P. Girard, A. Todri, G. Prenat, J. Alvarez-Hérault and K. Mackay

Oral: 15<sup>th</sup> Conference on Design Automation and Test in Europe, Dresden (Germany), Mar. 12-16 2012

**Tunable hysteresis loop shift in orthogonally coupled [Pt/Co]-NiFe ferromagnetic layers**

Bollero, A., V. Baltz, L.D. Buda-Prejbeanu, B. Rodmacq, M. García Hernández, J. Camarero, R. Miranda and B. Dieny

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Perpendicular exchange spring FM/FM system based on [Pt/Co]/NiFe with isothermally-induced and tunable exchange bias**

Bollero, A., V. Baltz, L.D. Buda-Prejbeanu, B. Rodmacq, M.A. Niño, J. Camarero, R. Miranda and B. Dieny

Oral: Materials Research Society Spring Meeting, San Francisco (USA), Apr. 9-13 2012

**Engineering the magnitude and the sign of exchange bias for in-plane-CoFeB/perpendicular-SmCo<sub>5</sub> bilayer**

Bollero, A., V. Neu, V. Baltz, C. Rodrigo, M. Seifert, R. Pérez del Real, M. Vasquez, L. Schultz, J. Camarero and R. Miranda

Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Current-induced domain wall dynamics in the presence of Rashba spin-orbit coupling**

Boulle, O., L.D. Buda-Prejbeanu, E. Jué, I.M. Miron and G. Gaudin

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Model of current-in-plane tunnelling in double magnetic tunnel junctions**

Clement, P.-Y., C. Ducruet, C. Baraduc, M. Chshiev and B. Dieny

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Fabrication and magneto-transport properties of graphene-based lateral spin valves**

Cubukcu, M., M.B. Martin, P. Laczkowski, C. Vergneaud, A. Marty, C. Beigné, L. Notin, J.-P. Attané, L. Vila, P. Seneor, M. Anane, C. Deranlot, S. Auffret, A. Fert and M. Jamet

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Spintronics**

Dieny, B.

Oral: International Semiconductor Conference Dresden-Grenoble, Grenoble (France), Sep. 24-26 2012

**Is it not time to introduce courses in magnetism and spin electronics in the education in microelectronics?**

Dieny, B. and G. Prenat

Oral: 9<sup>th</sup> European Workshop on Microelectronics Education, Grenoble (France), May 9-11 2012

**Anomalous Extraordinary Hall Effect as a function of temperature and magnetic field in Pt/Co/AlO<sub>x</sub>**

Fettar, F., H.M. Garad, F. Gay, S. Auffret, B. Rodmacq and B. Dieny

Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Influence of fabrication defects on the magnetization dynamics of magnetic tunnel junctions**

Firastrau, I., I.L. Prejbeanu, J.-P. Nozières and L.D. Buda-Prejbeanu

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Micromagnetic investigation of the current-induced magnetization oscillations for a perpendicular polarizer spintronic oscillator**

Firastrau, I., L.D. Buda-Prejbeanu, U. Ebels, J.-C. Toussaint and B. Dieny

Oral: 7<sup>th</sup> International Conference on Advanced Materials, Brasov (Romania), Aug. 28-31 2012

**Numerical study of spintronic-induced excitations in a synthetic antiferromagnet under perpendicular-to-plane spin-polarized electrons**

Firastrau, I., L.D. Buda-Prejbeanu, A. Vayset, B. Lacoste, U. Ebels and B. Dieny

Poster: 7<sup>th</sup> International Conference on Surfaces, Coatings and Nanostructured Materials, Praha (Czech Republic), Sep. 18-21 2012

**Micromagnetic study of defects influence on the hysteresis loops of nanomagnets**

Firastrau, I., I.L. Prejbeanu and L.D. Buda-Prejbeanu

Poster: International Workshop on Multi-Rate Processes and Hysteresis, Suceava (Romania), May 21-24 2012

**Estimation of the amplitude-phase coupling parameter from the temperature dependence of the linewidth on spin transfer oscillators**

Garcia Sanchez, F., J.F. Sierra Garcia, M. Quinsat, U. Ebels, A.S. Jenkins, D. Gusakova, L.D. Buda-Prejbeanu and B. Dieny

Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Perpendicular switching of a single ferromagnetic layer induced by in-plane current injection**

Garello, K., I.M. Miron, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S. Bandiera, B. Rodmacq, A. Schuhl and P. Gambardella

Oral: [American Physical Society March Meeting](#), Boston (USA), Feb. 27-Mar. 2 2012

**Penetration depth of transverse spin current in ultrathin ferromagnets and nonmagnets**

Ghosh, A., S. Auffret, U. Ebels and W.E. Bailey

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Efficient current-induced domain wall dynamics in high anisotropy materials**  
Heinen, J., T. Schulz, C. Ulysse, B. Ocker, J. Wrona, O. Boulle, B. Koopmans, H. Swagten and M. Kläui  
Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Switching dynamics of Co nanodots with perpendicular anisotropy by in-plane current injection**  
Hrabec, A., S. Pizzini, V. Stefanovich, M. Bomfin, J. Vogel, I.M. Miron, G. Gaudin, O. Boulle, P. Gambardella, F. Sirotti, T.O. Mentes and A. Locatelli  
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**Magnetic micro/nano-tweezers functionalized and dispersed in solution for biological and medical applications**  
Iss, C., H. Joisten, T. Dietsch, S. Leulmi, P. Sabon, Y. Hou-Broutin, L. Livache, J. Faure-Vincent, R. Calemczuk, C. Benoît, D. Peyrade, S. Auffret, E. Gautier and B. Dieny  
Poster: Journées Nationales en Nanosciences et Nanotechnologies, Bordeaux (France), Nov. 7-9 2012

**Full phase diagram of spin torque oscillators with perpendicular polarizer**  
Jenkins, A.S., J.F. Sierra Garcia, M. Quinsat, B. Rodmacq, B. Delaët, B. Dieny, M.-C. Cyrille and U. Ebels  
Poster: IEEE International Conference on Microwave Magnetics, Kaiserslautern (Germany), Aug. 26-29 2012

**Full phase diagram of spin torque oscillators with perpendicular polarizer**  
Jenkins, A.S., J.F. Sierra Garcia, M. Quinsat, B. Rodmacq, B. Delaët, B. Dieny, M.-C. Cyrille and U. Ebels  
Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Influence of perturbation on the out-of-plane precession of an in-plane magnetized free layer with a perpendicular polarizer**  
Lacoste, B., L.D. Buda-Prejbeanu, R.C. Sousa and B. Dieny  
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**Self-consistent calculation of spin-polarized transport and magnetization dynamics in synthetic antiferromagnetic free layers**  
Lee, S., K. Lee, D. Gusakova, L.D. Buda-Prejbeanu, U. Ebels and B. Dieny  
Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Effects of deposition induced and post-deposition thermally-activated intermixing on the exchange bias of  $[Pt/Co]_{x3}/(Pt)/IrMn$  films**  
Letellier, F., L. Lechevallier, R. Lardé, J.-M. Le Breton, V. Baltz, B. Rodmacq, B. Dieny and J.-F. Jacquot  
Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Atomic diffusion in (Pt/Co)<sub>3</sub>/IrMn multilayers**

Letellier, F., A. Zarefy, J.-M. Le Breton, L. Lechevallier, R. Lardé, D. Blavette, V. Baltz, B. Rodmacq and B. Dieny

Oral: International Conference on Magnetism, Bexco, Busan (South Korea), Jul. 8-13 2012

**Apoptose de cellules cancéreuses induite par vibrations magnéto-mécaniques de nanoparticules magnétiques**

Leulmi, S., T. Dietsch, C. Iss, H. Joisten, P. Sabon, S. Sauvaigo, T. Douki, Y. Hou-Broutin, L. Livache and B. Dieny

Poster: 7<sup>eme</sup> Journée Scientifique du CLARA, Lyon (France), Mar. 20-21 2012

**Time-resolved measurements of precessional switching in a MRAM cell with a perpendicular polarizer under a hard axis magnetic field**

Marins de Castro Souza, M., T. Devolder, B. Lacoste, R.C. Sousa, L.D. Buda-Prejbeanu, S. Auffret, U. Ebels, C. Ducruet, I.L. Prejbeanu, L. Vila, B. Rodmacq and B. Dieny

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Sub-nanosecond precessional switching in a MRAM cell with a perpendicular polarizer**

Marins de Castro Souza, M., B. Lacoste, R.C. Sousa, T. Devolder, L.D. Buda-Prejbeanu, A. Chavent, A. Mejdoubi, S. Auffret, U. Ebels, C. Ducruet, I.L. Prejbeanu, L. Vila, B. Rodmacq and B. Dieny

Oral: 4<sup>th</sup> IEEE International Memory Workshop, Milano (Italy), May 20-23 2012

**Parametric oscillator based on nonlinear vortex dynamics in low-resistance magnetic tunnel junctions**

Martin, S., N. de Mestier, C. Thirion, C. Hoarau, Y. Conraux, C. Baraduc and B. Dieny

Oral and Poster: Magnetic Single Nano-Object Workshop & School, Les Houches (France), Feb. 5-10 2012

**A compact model of precessional spin transfer switching for MTJ with a perpendicular polarizer**

Mejdoubi, A., G. Prenat and B. Dieny

Oral: International Conference on Microelectronics, Nis (Serbia), May 13-16 2012

**Non-destructive generation of nanoscale periodic pinning potentials for magnetic domain walls: A way to bias domain wall propagation**

Metaxas, P.J., P.-J. Zermatten, R.L. Novak, J.-P. Jamet, R. Weil, J. Ferré, A. Mougin, S. Rohart, R.L. Stamps, V. Baltz, G. Gaudin and B. Rodmacq

Poster: [American Physical Society March Meeting](#), Boston (USA), Feb. 27-Mar. 2 2012

**Spin torque-driven excitations in synthetic antiferromagnets**

Montebianco, E., D. Gusakova, F. Garcia Sanchez, L.D. Buda-Prejbeanu, A.S. Jenkins, U. Ebels, M.-C. Cyrille and B. Dieny

Poster: International Conference on Spin Dynamics in Nanomagnets, Seoul (South Korea), Jul. 15-18 2012

**Spin torque-driven excitations in synthetic antiferromagnets**

Monteblanco, E., D. Gusakova, F. Garcia Sanchez, L.D. Buda-Prejbeanu, A.S. Jenkins, U. Ebels, M.-C. Cyrille and B. Dieny  
Poster: IEEE International Conference on Microwave Magnetics, Kaiserlautern (Germany), Aug. 26-29 2012

**Spin torque-driven excitations in synthetic antiferromagnets**

Monteblanco, E., D. Gusakova, F. Garcia Sanchez, L.D. Buda-Prejbeanu, A.S. Jenkins, U. Ebels, M.-C. Cyrille and B. Dieny  
Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Tomographic investigation of self-organized nanocolumns in Ge-Mn thin films**

Mouton, I., R. Lardé, E. Talbot, C. Genevois, D. Blavette, V. Baltz, A. Barski, P. Bayle-Guillemaud and M. Jamet  
Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Direct observation of nearly mass-less domain walls in nanostripes with perpendicular magnetic anisotropy**

Pizzini, S., J. Vogel, M. Bonfim, O. Boule, E. Jué, N. Rougemaille, I.M. Miron, A. Hrabec, G. Gaudin, J.C. Cezar and F. Sirotti  
Oral: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Hybrid CMOS/magnetic process design kit and application to the design of reliable and low-power non-volatile logic circuits**

Prenat, G., B. Dieny, G. di Pendina and K. Torki  
Oral: First Workshop on Manufacturable and Dependable Multicore Architectures at Nanoscale, Annecy (France), Jun. 1 2012

**Linenwidth of higher harmonics in spin torque oscillators**

Quinsat, M., D. Gusakova, V. Tiberkevich, A. Slavin, J.F. Sierra Garcia, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu and J.A. Katine  
Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Linenwidth broadening in non-isochronous oscillators**

Quinsat, M., V. Tiberkevich, J.F. Sierra Garcia, D. Gusakova, F. Garcia Sanchez, A. Slavin, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine and A. Zeltser  
Oral: International Conference on Spin Dynamics in Nanomagnets, Seoul (South Korea), Jul. 15-18 2012

**Linenwidth broadening in non-isochronous oscillators**

Quinsat, M., V. Tiberkevich, J.F. Sierra Garcia, D. Gusakova, F. Garcia Sanchez, A. Slavin, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine and A. Zeltser  
Oral: Nordic Spin 2012 Conference, Gothenburg (Sweden), Apr. 22-25 2012

**Anistropic bimodal distribution of blocking temperature with multiferroic BiFeO<sub>3</sub> epitaxial thin films**

Safeer, C.K., M. Chamfrault, J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, J.-F. Jacquot, M. Bibes, A. Barthélémy, B. Dieny, H. Béa and V. Baltz

Oral: European Materials Research Society Spring Meeting, Strasbourg (France), May 14-18 2012

**Finite element-based self-consistent treatment of magnetization dynamics caused by spin transfer effects**

Sturma, M., D. Gusakova, F. Alouges and J.-C. Toussaint

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Micromagnetic analysis of frequency discontinuities in planar spin transfer oscillators**

Vaysset, A., E. Kritsikis, J.-C. Toussaint, L.D. Buda-Prejbeanu, D. Gusakova, U. Ebels and B. Dieny

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Self-sustained oscillations in a nanopillar with a synthetic antiferromagnetic free layer and perpendicular polarizer**

Vaysset, A., B. Lacoste, L.D. Buda-Prejbeanu, U. Ebels, I. Firastrau, R.C. Sousa and B. Dieny

Poster: Joint European Magnetic Symposia, Parma (Italy), Sep. 9-14 2012

**Magnetic properties of exchange-biased IrMn/Co patterned arrays**

Vinai, G., J. Moritz, G. Gaudin, J. Vogel, M. Bonfim, I.L. Prejbeanu, K. Mackay and B. Dieny

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Direct observation of nearly mass-less domain walls in nanostripes with perpendicular magnetic anisotropy**

Vogel, J., S. Pizzini, M. Bonfim, O. Boulle, E. Jué, N. Rougemaille, I.M. Miron, A. Hrabec, S. Auffret, B. Rodmacq, J.C. Cesar, F. Sirotti and G. Gaudin

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

**Ultrathin cobalt films contacted to graphene**

Vo-Van, C., A. Kimouche, H.X. Yang, Z. Kassir-Bodon, J. Vogel, S. Pizzini, P. Bayle-Guillemaud, M. Chshiev, L. Ranno, A.T. N'Diaye, N. Bendiab, A.K. Schmid, N. Rougemaille, O. Fruchart and J. Coraux

Oral: Intermag Conference, Vancouver (Canada), May 7-11 2012

# 2011

## INVITED PRESENTATIONS

### **Synchronization of high-power vortex oscillators at multiple of the fundamental frequency**

Baraduc, C., S. Martin, C. Thirion, Y. Liu, M. Dovek and B. Dieny  
SPIE Optics+Photonics Conference, San Diego (USA), Aug. 21-25 2011

### **Mechanisms of perpendicular magnetic anisotropy at Co(Fe)|MgO interfaces**

Chshiev, M.  
Moscow International Symposium on Magnetism, Moscow (Russia), Aug. 21-25 2011

### **Spin transport phenomena in nanostructures with non-collinear magnetic moments**

Chshiev, M.  
58<sup>th</sup> AVS Annual International Symposium and Exhibition, Nashville (USA), Oct. 30-Nov. 4 2011

### **Extended scalability and functionalities of MRAM based on thermally-assisted writing**

Dieny, B., R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, S. Auffret, B. Rodmacq, J.-P. Nozières, J. Alvarez-Héault, E. Gapihan, I.L. Prejbeanu, C. Ducruet, C. Portemont, K. Mackay and B. Cambou  
International Electron Devices Meeting, Washington (USA), Dec. 5-7 2011

### **Spintronic phenomena and devices**

Dieny, B.  
Modern Trends in Magnetism, Grenoble (France), Sep. 9 2011

### **Spin transfer RF nano-oscillators for wireless communications and microwave-assisted magnetic recording**

Dieny, B., U. Ebels and M.-C. Cyrille  
Imagine Nano Conference, Bilbao (Spain), Apr. 11-14 2011

### **Sub-20nm scalability issues in MRAM**

Dieny, B., R.C. Sousa, S. Bandiera, J. Alvarez-Héault, E. Gapihan, C. Papusoi, M. Marins de Castro Souza, S. Auffret, B. Rodmacq, L.D. Buda-Prejbeanu, C. Ducruet, C. Portemont, K. Mackay and J.-P. Nozières  
Seminar, Samsung Electronics, Hanyang (South Korea), May 20 2011

### **Prospects and challenges of perpendicular MTJs with interfacial perpendicular anisotropy: Towards sub-20nm STT MRAM**

Dieny, B., R.C. Sousa, S. Bandiera, L.D. Buda-Prejbeanu and J.-P. Nozières  
Samsung Semiconductor Future Technology Forum, Seoul (South Korea), Sep. 22-23 2011

**Non-volatile MRAM concepts for scalable and low-power logic-in-memory circuits based on hybrid CMOS/magnetic technology**

Dieny, B., R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, B. Rodmacq, J.-P.

Nozières, I.L. Prejbeanu and K. Mackay

Imagine Nano Conference, Bilbao (Spain), Apr. 11-14 2011

**Non-volatile MRAM concepts for scalable logic-in-memory circuits based on hybrid CMOS/magnetic technology**

Dieny, B., R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, B. Rodmacq, J.-P.

Nozières, I.L. Prejbeanu and K. Mackay

Frontier of Spintronics/Nanoelectronics Workshop, Hsinchu (Taiwan), Apr. 24 2011

**Les oscillateurs à transfert de spin: Etat de l'art, développement et applications potentielles**

Ebels, U.

Journée Nationale Micro-Ondes, Brest (France), May 18-20 2011

**Precessional dynamics driven by field or current**

Ebels, U.

European School on Magnetism, Targoviste (Romania), Aug. 22-Sep. 2 2011

**Rashba spin-orbit torques in ferromagnetic thin films**

Gaudin, G., I.M. Miron, T.A. Moore, H. Szambolics, K. Garello, P.-J. Zermatten, M.V.

Costache, S. Auffret, S. Bandiera, B. Rodmacq, L.D. Buda-Prejbeanu, A. Schuhl, S.

Pizzini, J. Vogel, M. Bonfim and P. Gambardella

5<sup>th</sup> International Workshop on Amorphous and Nanostructured Magnetic Materials, Iasi (Romania), Sep. 5-7 2011

**Rashba spin-orbit torques in ferromagnetic thin films**

Gaudin, G., I.M. Miron, T.A. Moore, H. Szambolics, S. Auffret, B. Rodmacq, L.D.

Buda-Prejbeanu, A. Schuhl, S. Pizzini, J. Vogel, M. Bonfim and P. Gambardella

19<sup>th</sup> International Symposium on Nanostructures: Physics and Technology, Ekaterinburg (Russia), Jun. 20-25 2011

**Rashba spin-orbit torques in ferromagnetic thin films**

Gaudin, G., I.M. Miron, T.A. Moore, H. Szambolics, S. Auffret, B. Rodmacq, L.D.

Buda-Prejbeanu, A. Schuhl, S. Pizzini, J. Vogel, M. Bonfim and P. Gambardella

1<sup>st</sup> CSIS International Symposium on Spintronics-based VLSIS and 7<sup>th</sup> RIEC International Workshop on Spintronics, Sendai (Japan), Feb. 3-4 2011

**Experimental comparison of spin pumping parameters at polycrystalline FM/NM interfaces**

Ghosh, A., U. Ebels, S. Auffret and W.E. Bailey

56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Spin injection in silicon and germanium**

Jamet, M., A. Jain, L. Grenet, A. Barski, P. Noé, S. Auffret, P. Warin, J.-M. Hartmann,

A. Brenac, E. Augendre, V. Baltz, P. Gentile and L. Vila

SPIE Optics+Photonics Conference, San Diego (USA), Aug. 21-25 2011

## **Rashba spin-orbit torques in ferromagnetic thin films**

Miron, I.M.

International Workshop on Spin Currents, Sendai (Japan), Jul. 25-29 2011

## **Spin-orbit torques in ferromagnetic thin films**

Miron, I.M., K. Garello, G. Gaudin, P.-J. Zermatten, M.V. Costache, S. Auffret, S.

Bandiera, B. Rodmacq, A. Schuhl and P. Gambardella

56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

## **Controlling magnetic vortices using exchange bias**

Noguès, J., G. Salazar Álvarez, J. Kavich, M. Tanase, A. Mugarza, S. Stepanow, V.

Baltz, A. Weber, L.J. Heyderman, A.K. Petford-Long, O. Heinonen, M.D. Baró, B.

Dieny, K.S. Buchanan, A. Hoffmann, P. Gambardella and J. Sort

International Symposium on Spin Waves, Saint-Petersburg (Russia), Jun. 5-11 2011

## **Recent progress and emerging technology of spintronics device for VLSI**

Nozières, J.-P.

Spintronics Workshop on LSI, Kyoto (Japan), Jun. 13 2011

## **Spin-based memories (spin transfer torque DRAM)**

Nozières, J.-P.

Korean International Summer School on Nanoelectronics, Daegu (South Korea), Apr. 26-29 2011

## **From promises to products: Spin transfer torque and thermally-assisted MRAM**

Nozières, J.-P.

Leading-edge Embedded NVM Workshop, Gardanne (France), Nov. 17-18 2011

## **Hybrid CMOS/Magnetic process design kit and application to the design of high-performances non-volatile logic circuits**

Prenat, G., G. di Pendina, K. Torki, B. Dieny and J.-P. Nozières

International [Conference on Computer-Aided Design](#), San Jose (USA), Nov. 7-10 2011

## **Analysis of non-linear parameters of spin torque-driven excitations**

Quinsat, M., J.F. Sierra Garcia, D. Gusakova, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu, E. Montebianco, B. Dieny, V. Tiberkevich, A. Slavin, J.A. Katine and A. Zeltser

2<sup>nd</sup> International Workshop on Magnonics: From Fundamentals to Applications, Recife (Brazil), Aug. 7-10 2011

## **Scalable thermally-assisted MRAM**

Sousa, R.C., C. Papusoi, J. Alvarez-Héault, E. Gapihan, S. Bandiera, M. Marins de Castro Souza, S. Auffret, B. Rodmacq, L.D. Buda-Prejbeanu, I.L. Prejbeanu, C. Ducruet, C. Portemont, Y. Conraux, K. Mackay, J.-P. Nozières and B. Dieny

Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

## **ORAL AND POSTER PRESENTATIONS**

### **Duty cycle effect on barrier breakdown in MgO magnetic tunnel junctions**

Amara-Dababi, S., R.C. Sousa, J. Alvarez-Héault, L. Lombard, H. Béa, I.L. Prejbeanu, K. Mackay and B. Dieny

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

### **Duty cycle effect on barrier breakdown in MgO magnetic tunnel junctions**

Amara-Dababi, S., R.C. Sousa, J. Alvarez-Héault, L. Lombard, H. Béa, I.L. Prejbeanu, K. Mackay and B. Dieny

Poster: Imagine Nano Conference, Bilbao (Spain), Apr. 11-14 2011

### **Charge trapping-detrapping mechanism of barrier breakdown in MgO magnetic tunnel junctions**

Amara-Dababi, S., R.C. Sousa, M. Chshiev, H. Béa, B. Dieny, J. Alvarez-Héault, L. Lombard, I.L. Prejbeanu and K. Mackay

Poster: 17<sup>th</sup> Conference on Insulating Films on Semiconductors, Grenoble (France), Jun. 21-24 2011

### **Charge trapping-detrapping mechanism of barrier breakdown in MgO magnetic tunnel junctions**

Amara-Dababi, S., R.C. Sousa, M. Chshiev, H. Béa, B. Dieny, J. Alvarez-Héault and K. Mackay

Oral: Journées Nationales du Réseau Doctoral en Micro-nanoélectronique, Cachan (France), May 23-25 2011

### **Etude du claquage de barrière MgO de jonctions tunnel magnétiques dû au piégeage/dépiégeage de charges dans la barrière**

Amara-Dababi, S., R.C. Sousa, H. Béa, J. Alvarez-Héault, K. Mackay and B. Dieny

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

### **Fabrication d'un magnétomètre 3D intégré en configuration vanne de spin**

Aurino, M., S. Auffret, P. Sabon, O. Boulle, G. Gaudin, C. Baraduc and A. Schuhl

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

### **Analysis of resistive-open defects in TAS-MRAM arrays**

Azevedo, J., A. Virazel, A. Bosio, L. Dilillo, P. Girard, A. Todri, G. Prenat and K. Mackay

Oral: International Test Conference, Anaheim (USA), Sep. 18-23 2011

### **Bimodal distribution of blocking temperatures in exchange-biased Co/IrMn bilayers**

Baltz, V., S. Auffret, G. Gaudin, G. Vinai, J. Moritz, B. Rodmacq, B. Dieny, F. Letellier, A. Zarefy, R. Lardé and L. Lechevallier

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Aug. 21-25 2011

**Cell-to-cell distribution of the exchange bias properties of MRAMs: Role of interfacial spin glass-like areas**

Baltz, V., G. Gaudin, B. Rodmacq, S. Auffret and B. Dieny

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Thermally-assisted field writing in magnetic tunnel junctions with perpendicular anisotropy**

Bandiera, S., R.C. Sousa, M. Marins de Castro Souza, C. Ducruet, C. Portemont, L. Vila, S. Auffret, I.L. Prejbeanu and B. Dieny

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Aug. 21-25 2011

**Ecriture assistée thermiquement de jonctions tunnel magnétiques à aimantation perpendiculaire pour cellules MRAM**

Bandiera, S., R.C. Sousa, M. Marins de Castro Souza, C. Ducruet, C. Portemont, L. Vila, S. Auffret, I.L. Prejbeanu and B. Dieny

Oral: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Thermally-assisted writing in magnetic tunnel junctions with perpendicular anisotropy**

Bandiera, S., R.C. Sousa, M. Marins de Castro Souza, C. Ducruet, C. Portemont, L. Vila, S. Auffret, I.L. Prejbeanu and B. Dieny

Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Calcul ab-initio du transport électronique dans les barrières de SrTiO<sub>3</sub>**

Belhadji, B., H.X. Yang, J.P. Velev and M. Chshiev

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Tuning the isothermally-induced exchange bias in perpendicularly-coupled ferromagnetic [Pt/Co]/NiFe multilayers**

Bollero, A., V. Baltz, L.D. Buda-Prejbeanu, P. Perna, J. Sort, J. Nogués, B. Rodmacq, J. Camarero, R. Miranda and B. Dieny

Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Quantifying and imaging magnetization reversal of buried interfaces by soft X-ray spectroscopy and holography**

Camarero, J., E. Jiménez, J. Vogel, C. Tieg, P. Perna, A. Bollero, F. Yakhou-Harris, C. Arm, E. Gautier, S. Auffret, B. Delaup, G. Gaudin, B. Rodmacq, B. Dieny and R. Miranda

Oral: Imagine Nano Conference, Bilbao (Spain), Apr. 11-14 2011

**Nature of perpendicular magnetic anisotropy at Fe|MgO and Co|MgO interfaces from first-principles**

Chshiev, M.

Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Fast propagation of weakly pinned domain walls and current-assisted magnetization reversal in He<sup>+</sup>-irradiated Pt/Co/Pt nanotracks**

Cormier, M., A. Mougin, J. Ferré, J.-P. Jamet, R. Weil, J. Fassbender, V. Baltz and B. Rodmacq

Poster: Magnetics and Optics Research International Symposium for New Storage Technology, Nijmegen (The Netherlands), Jun. 21-24 2011

**Self-polarization phenomenon and control of dispersion of synthetic antiferromagnetic nanoparticles for biological applications**

Courcier, T., P. Balint, H. Joisten, P. Sabon, S. Auffret, J. Faure-Vincent and B. Dieny

Poster: NanoBio Europe, Cork (Ireland), Jun. 20-23 2011

**Ultra compact non-volatile flip-flop for low-power digital circuits based on hybrid CMOS/Magnetic technology**

Di Pendina, G., G. Prenat, K. Torki, Y. Guillemenet and L. Torres

Oral: International Workshop on Power and Timing Modeling, Optimization and Simulation, Madrid (Spain), Sep. 26-29 2011

**A hybrid magnetic/CMOS process design kit for the design of low-power non-volatile logic circuits**

Di Pendina, G., G. Prenat, B. Dieny and K. Torki

Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Anomalous Extraordinary Hall effect as a function of the temperature and the magnetic field in Pt/Co/AIO<sub>x</sub>**

Fettar, F., H.M. Garad, J. Marcus, F. Gay, B. Rodmacq and B. Dieny

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Micromagnetic simulations on the magnetization dynamics of a SAF free layer oscillator driven by perpendicular spin-polarized current**

Firastrau, I., M.I. Pop, M.S. Adam, U. Ebels and L.D. Buda-Prejbeanu

Oral: 6<sup>th</sup> International Conference on Surfaces, Coatings and Nanostructured Materials, Krakow (Poland), Oct. 15-21 2011

**Synthetic antiferromagnet magnetization dynamics driven by out-of-plane spin-polarized current**

Firastrau, I., M.I. Pop, M.S. Adam, U. Ebels and L.D. Buda-Prejbeanu

Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Nanofabrication of MgO-based spin torque oscillators**

Garcia Hernandez, K.L., J.F. Sierra Garcia, M. Quinsat, E. Montebalco, L. Vila, E. Hassen, P. Lima, A.S. Jenkins, M.-C. Cyrille and U. Ebels

Poster: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Synthetic antiferromagnet magnetization dynamics induced by spin transfer torque**

Geranton, G., D. Gusakova, U. Ebels, B. Dieny and L.D. Buda-Prejbeanu

Poster: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Universality in the onset of spin current absorption in ultrathin metals measured through ferromagnetic resonance**

Ghosh, A., S. Auffret, U. Ebels and W.E. Bailey

Oral: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Demonstration of “spin pumping” using different (Pt or FM) spin sinks**

Ghosh, A., J.F. Sierra Garcia, S. Auffret, U. Ebels and W.E. Bailey

Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Linewidth reduction of spin transfer-driven excitations due to mode coupling**

Gusakova, D., M. Quinsat, J.F. Sierra Garcia, V. Tiberkevich, U. Ebels, B. Dieny, L.D. Buda-Prejbeanu, B. Delaët and M.-C. Cyrille

Poster: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Linewidth reduction in a spin torque nano-oscillator due to dynamical coupling between magnetic layers**

Gusakova, D., I. Firastrau, M. Quinsat, J.F. Sierra Garcia, V. Tiberkevich, A. Slavin, U. Ebels, B. Dieny, L.D. Buda-Prejbeanu and M.-C. Cyrille

Poster: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Linewidth reduction of spin transfer-driven excitations due to mode coupling**

Gusakova, D., M. Quinsat, J.F. Sierra Garcia, U. Ebels, B. Dieny, L.D. Buda-Prejbeanu, M.-C. Cyrille, V. Tiberkevich and A. Slavin

Poster: Moscow International Symposium on Magnetism, Moscow (Russia), Aug. 21-25 2011

**Linewidth reduction in a spin torque nano-oscillator caused by non-conservative current-induced coupling between magnetic layers**

Gusakova, D., M. Quinsat, J.F. Sierra Garcia, U. Ebels, B. Dieny, L.D. Buda-Prejbeanu, M.-C. Cyrille, V. Tiberkevich and A. Slavin

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Thermally-activated domain wall depinning: Extraction of the non-adiabaticity factor  $\beta$**

Heinen, J., O. Boulle, G. Malinowski, M. Kläui, H. Swagten, B. Koopmans, C. Ulysse and G. Faini

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Electrical spin injection in germanium**

Jain, A., L. Lamis, C. Vergnaud, A. Barski, P. Gentile, A. Brenac, L. Notin, S. Auffret, V. Baltz, J.-C. Le Breton, J. Peiro, C. Deranlot, H. Jaffrè, J.-M. George and M. Jamet

Poster: 6<sup>th</sup> International School and Conference on Spintronics and Quantum Information Technology, Matsue (Japan), Aug. 1-5 2011

**Towards tailoring magnetic properties in exchange-biased FM/AFM systems**

Jiménez, E., J. Camarero, N. Mikuszeit, P. Perna, F.J. Teran, A. Bollero, J. Sort, J. Noguès, J.M. García Martín, A. Hoffmann, B. Dieny and R. Miranda  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Self-polarization phenomenon and control of dispersion of synthetic antiferromagnetic nanoparticules for biological applications**

Joisten, H., T. Courcier, P. Balint, P. Sabon, J. Faure-Vincent, S. Auffret and B. Dieny  
Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

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Poster: Imagine Nano Conference "NanoBio&Med 2011", Bilbao (Spain), Apr. 11-14 2011

**Influence d'un champ magnétique transverse sur la propagation de parois de domaines dans des structures à asymétrie d'inversion**

Jué, E., A. Hrabec, O. Boulle, I.M. Miron, S. Auffret, B. Rodmacq, S. Bandiera, S. Pizzini, J. Vogel, A. Schuhl and G. Gaudin  
Oral: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Influence of a transverse magnetic field on current-induced domain walls motion in Pt/Co/AIO<sub>x</sub> trilayers**

Jué, E., A. Hrabec, O. Boulle, I.M. Miron, S. Auffret, B. Rodmacq, S. Bandiera, S. Pizzini, J. Vogel, A. Schuhl and G. Gaudin  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Second-order integration of the LLG equation for FEM spintronic modelling**

Kritskis, E., A. Vaysset, L.D. Buda-Prejbeanu, F. Alouges and J.-C. Toussaint  
Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Model of spin transfer-induced precessional switching in in-plane magnetized magnetic tunnel junctions with perpendicular polarizer**

Lacoste, B., M. Marins de Castro Souza, R.C. Sousa, L.D. Buda-Prejbeanu and B. Dieny  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Retournement par transfert de spin d'une cellule mémoire avec polariseur**

Lacoste, B., R.C. Sousa, S. Bandiera, M. Marins de Castro Souza, L.D. Buda-Prejbeanu and B. Dieny  
Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Spin transfer effects in FePt nanowires with narrow magnetic domain walls**  
Laczkowski, P., V. Nguyen, J.-P. Attané, C. Burrowes, A.P. Mihai, D. Ravelosona, J. Kim, A. Marty, F. Garcia Sanchez, L.D. Buda-Prejbeanu and L. Vila  
Poster: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Atomic scale characterization of thin films and multilayers by atom probe tomography**

Lardé, R., A. Zarefy, L. Lechevallier, J. Juraszek, J.-M. Le Breton, V. Baltz, B. Rodmacq and B. Dieny  
Oral: European Materials Research Society Spring Meeting, Nice (France), May 9-13 2011

**Voltage-controlled magnetic anisotropy in soft magnetostRICTive ferromagnetic thin films**

Lebedev, G., B. Viala, J. Delamare and O. Cugat  
Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Caractérisation à l'échelle atomique de multicouches à anisotropie d'échange perpendiculaire par sonde atomique tomographique**

Letellier, F., L. Lechevallier, R. Lardé, J. Juraszek, J.-M. Le Breton, V. Baltz, B. Rodmacq and B. Dieny  
Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Ultrafast precessional spin transfer switching in MRAM cells with a perpendicular polarizer**

Marins de Castro Souza, M., R.C. Sousa, S. Bandiera, C. Ducruet, S. Auffret, C. Papusoi, I.L. Prejbeanu, U. Ebels, C. Portemont, B. Rodmacq, L. Vila and B. Dieny  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Integration of a perpendicular polarizer in an in-plane magnetic tunnel junction**

Marins de Castro Souza, M., R.C. Sousa, S. Bandiera, C. Ducruet, S. Auffret, C. Papusoi, I.L. Prejbeanu, U. Ebels, C. Portemont, L. Vila, B. Rodmacq and B. Dieny  
Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Aug. 21-25 2011

**Parametric oscillator based on non-linear vortex dynamics in low resistance magnetic tunnel junctions**

Martin, S., N. de Mestier, C. Thirion, C. Hoarau, Y. Conraux, C. Baraduc and B. Dieny  
Oral: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Oscillateur basé sur la dynamique de vortex magnétique dans des jonctions tunnel à basse résistance**

Martin, S., N. de Mestier, C. Thirion, C. Hoarau, Y. Conraux, C. Baraduc and B. Dieny  
Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

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Poster: European School on Magnetism, Targoviste (Romania), Aug. 22-Sep. 2 2011

**Dynamique d'aimantation dans un antiferromagnétique synthétique (SAF)**

Montebianco, E., D. Gusakova, L.D. Buda-Prejbeanu, U. Ebels and B. Dieny

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Caractérisation par tomographie atomique de nano-colonnes auto-organisées dans des semiconducteurs magnétiques Ge-Mn**

Mouton, I., R. Lardé, E. Talbot, A. Jain, A. Barski, V. Baltz, P. Bayle-Guillemaud, J. Cibert and M. Jamet

Oral: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Low effective demagnetizing field in magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, S. Auffret and B. Dieny

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Domain growth and dipolar bias in magnetic thin films strongly coupled to a periodic pinning potential**

Novak, R.L., P.J. Metaxas, S. Rohart, R. Weil, J.-P. Jamet, A. Mougin, J. Ferré, R.L. Stamps, V. Baltz and B. Rodmacq

Poster: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Synchronization of magnetic tunnel junction nano-oscillators to an RF current**

Quinsat, M., J.F. Sierra Garcia, I. Firastrau, V. Tiberkevich, A. Slavin, M. Zarudniev, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine, D. Mauri and A. Zeltser

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Linewidth of higher harmonics in spin torque oscillators**

Quinsat, M., D. Gusakova, J.F. Sierra Garcia, V. Tiberkevich, A. Slavin, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu and J.A. Katine

Poster: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Injection locking of magnetic tunnel junction oscillator to an RF current**

Quinsat, M., J.F. Sierra Garcia, I. Firastrau, V. Tiberkevich, A. Slavin, M. Zarudniev, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine, D. Mauri and A. Zeltser

Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Non-linear parameters in magnetic tunnel junction spin torque oscillator**

Quinsat, M., J.F. Sierra Garcia, D. Gusakova, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine, D. Mauri and A. Zeltser

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Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Synchronisation d'un oscillateur basé sur une jonction tunnel magnétique**

Quinsat, M., J.F. Sierra Garcia, J.-P. Michel, L.D. Buda-Prejbeanu, D. Gusakova, I. Firastrau, A. Slavin, U. Ebels, M.-C. Cyrille and J.A. Katine

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Distribution of blocking temperatures in exchange-biased multiferroic-based heterostructures**

Safeer, C.K., J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, M. Bibes, A. Barthélémy, H. Béa and V. Baltz

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Distribution of blocking temperatures in exchange-biased multiferroic-based heterostructures**

Safeer, C.K., H. Béa, V. Baltz, B. Dieny, J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, M. Bibes and A. Barthélémy

Oral: GDR Multiferroiques, Gif-sur-Yvette (France), May 17-18 2011

**Anisotropic bimodal distribution of blocking temperatures in exchange-biased multiferroic-based systems**

Safeer, C.K., M. Chamfrault, B. Dieny, J. Allibe, C. Carretero, C. Deranlot, E. Jacquet, M. Bibes, A. Barthélémy, H. Béa and V. Baltz

Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Temperature dependence of the emission linewidth in MgO-based spin torque oscillators**

Sierra Garcia, J.F., M. Quinsat, U. Ebels, I. Joumard, A.S. Jenkins, M.-C. Cyrille, B. Dieny and J.A. Katine

Oral: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Temperature dependence of in-plane magnetic excitations in MgO-based spin torque oscillators**

Sierra Garcia, J.F., M. Quinsat, I. Joumard, U. Ebels, M.-C. Cyrille, B. Dieny and J.A. Katine

Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Temperature dependence of in-plane magnetic excitations in magnetic tunnel junction nanopillars**

Sierra Garcia, J.F., M. Quinsat, I. Joumard, U. Ebels, M.-C. Cyrille, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine and A. Zelster

Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Angular and temperature dependence of in-plane magnetic excitations in magnetic tunnel junction nanopillars**

Sierra Garcia, J.F., M. Quinsat, I. Joumard, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, B. Dieny, J.A. Katine, D. Mauri and A. Zeltser

Poster: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Effect of occupation numbers on exchange coupling in low dimensional magnetic nanostructures**

Terrade, D., H.X. Yang, A. Kalitsov, L.E. Nistor, M. Chshiev and B. Dieny

Oral: [American Physical Society March Meeting](#), Portland (USA), Mar. 21-25 2011

**Numerical evidence of wide frequency tunability of spin transfer oscillators in the absence of applied field**

Vayset, A., L.D. Buda-Prejbeanu, J.-C. Toussaint, U. Ebels, I. Firastrau and B. Dieny

Poster: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Coherence enhancement of ultrafast spin transfer-driven precessional switching**

Vayset, A., C. Papusoi, L.D. Buda-Prejbeanu, J.-C. Toussaint, E. Kritsikis and B. Dieny

Oral: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Reproducibility enhancement of spin tranfer-induced precessional switching**

Vayset, A., C. Papusoi, L.D. Buda-Prejbeanu, J.-C. Toussaint, E. Kritsikis and B. Dieny

Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**Micromagnetic analysis of frequency hopping in planar spin transfer torque oscillators layers**

Vayset, A., E. Kritsikis, J.-C. Toussaint, L.D. Buda-Prejbeanu, D. Gusakova and U. Ebels

Poster: Spin Master Voice Workshop, Villiers-le-Mahieu (France), Dec. 14-16 2011

**Analyse micromagnétique des modes d'un oscillateur à transfert de spin**  
Vayset, A., E. Kristikis, J.-C. Toussaint, L.D. Buda-Prejbeanu, D. Gusakova and U. Ebels  
Oral: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Etude du paramètre non-adiabatique d'une paroi magnétique dans le cadre d'un modèle diffusif 3D**  
Vayset, A., N. Strelkov, A. Vedyayev, N. Ryzhanova, D. Gusakova, L.D. Buda-Prejbeanu, M. Chshiev, J.-C. Toussaint and B. Dieny  
Poster: Colloque Louis Néel, Brest (France), Sep. 20-23 2011

**Inducing magnetism in graphene nanomesh**  
Yang, H.X., M. Chshiev, D.W. Boukhvalov, X. Waintal and S. Roche  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Ab-initio justification of correlation between perpendicular magnetic anisotropy and Bloch states spin filtering in MgO-based tunnel junctions**  
Yang, H.X., M. Chshiev and B. Dieny  
Oral: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**First-principles investigation of the very large perpendicular magnetic anisotropy at Fe/MgO interfaces**  
Yang, H.X., J.H. Lee, M. Chshiev, A. Manchon, L.E. Nistor, K.H. Shin and B. Dieny  
Poster: Intermag Conference, Taipei (Taiwan), Apr. 25-29 2011

**Mechanisms of perpendicular magnetic anisotropy at Fe(001)|MgO(001) interfaces**  
Yang, H.X., J.H. Lee, M. Chshiev, A. Manchon, K.H. Shin and B. Dieny  
Poster: Imagine Nano Conference, Bilbao (Spain), Apr. 11-14 2011

**Shape induced magnetic moment in graphene nanomesh**  
Yang, H.X., M. Chshiev, X. Waintal and S. Roche  
Poster: Graphene Week 2011: Fundamental Science of Graphene and Applications of Graphene-Based Devices, Obergurgl (Austria), Apr. 24-29 2011

**Nature of perpendicular magnetic anisotropy at Fe|MgO and Co|MgO interfaces from first principles**  
Yang, H.X., J.H. Lee, M. Chshiev, A. Manchon, L.E. Nistor, K.H. Shin and B. Dieny  
Oral: Recent Trends in Nanomagnetism, Spintronics and their Applications, Ordizia (Spain), Jun. 1-4 2011

**First-principle studies of interlayer exchange coupling in Co/SrTiO<sub>3</sub>/Co magnetic tunnel junctions**  
Yang, H.X., B. Belhadji, J.P. Velev and M. Chshiev  
Poster: 56<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Scottsdale (USA), Oct. 30-Nov. 3 2011

**Effects of shape- and edge-passivation on magnetic moments in graphene nanomesh by first-principles investigation**

Yang, H.X. and M. Chshiev

Oral: [American Physical Society March Meeting](#), Portland (USA), Mar. 21-25 2011

# 2010

## INVITED PRESENTATIONS

### **Spin transfer effects in FePt nanowires with narrow magnetic domain walls**

Attané, J.-P., V. Nguyen, C. Burrowes, A.P. Mihai, A. Marty, J.S Kim, D. Ravelosona, F. Garcia Sanchez, L.D. Buda-Prejbeanu and L. Vila  
55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

### **Spin transfer torque and magnetic noise in magnetic tunnel junctions**

Baraduc, C. and B. Dieny  
International Symposium on Spintronic Devices and Commercialization, Beijing (China), Oct. 21-24 2010

### **Giant axial ratio multiferroic BiFeO<sub>3</sub> phase**

Béa, H., S. Fusil, R. Mattana, I. Cañero Infante, J. Allibe, E. Jacquet, V. Cros, A. Anane, F. Petroff, K. Bouzehouane, M. Bibes, A. Barthélémy, P. Paruch, B. Dupé, G. Geneste, B. Dkhil, B. Warot-Fonrose, F. Wilhelm, A. Rogalev, S.S. Lisenkov, I. Ponomareva and L. Bellaiche  
Advances in the Fundamental Physics of Ferroelectrics and Related Materials, Aspen (USA), Jan. 31-Feb. 5 2010

### **Giant axial ratio multiferroic BiFeO<sub>3</sub> phase**

Béa, H., S. Fusil, R. Mattana, I. Cañero Infante, J. Allibe, E. Jacquet, V. Cros, A. Anane, F. Petroff, K. Bouzehouane, M. Bibes, A. Barthélémy, P. Paruch, B. Dupé, G. Geneste, B. Dkhil, B. Warot-Fonrose, F. Wilhelm, A. Rogalev, S.S. Lisenkov, I. Ponomareva and L. Bellaiche  
International Symposium on Integrated Functionalities, San Juan (USA), Jun. 13-16, 2010

### **Exploring the limits of soft X-ray magnetic holography: Imaging magnetization reversal of buried interfaces**

Camarero, J., E. Jiménez, C. Tieg, J. Vogel, C. Arm, P. Perna, F. Yakhou-Harris, E. Gautier, S. Auffret, B. Delaup, G. Gaudin, B. Rodmacq, B. Dieny and R. Miranda  
55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

### **Emerging nonvolatile memories**

Chin, A., R.C. Sousa, E.-T. Kang, K. Miyaji and M. Kozicki  
Materials Research Society Spring Meeting, San Francisco (USA), Apr. 5-9 2010

### **Quantum theory of spin transfer torques in a view of memory applications**

Chshiev, M.  
International Symposium on Integrated Functionalities, San Juan (USA), Jun. 13-16 2010

**Non-collinear spin transport in layered structures and bulk materials for spintronics**

Chshiev, M.

[MINATEC Crossroads'10](#), Grenoble (France), Jun. 23-24 2010

**Spin transfer torques in magnetic tunnel junctions**

Chshiev, M.

[Gordon Research Conferences](#), "Magnetic Nanostructures", Lewiston (USA), Aug. 8-13 2010

**Spin transport in noncollinear magnetic configurations by first-principles and tight-binding approaches**

Chshiev, M.

[Atelier du Groupement de Recherche Co-DFT](#): Théorie et modélisation pour le magnétisme: de la molécule au transport polarisé en spin, Lyon (France), Nov. 3-5 2010

**Theory of spintronic phenomena in magnetic tunnel junctions**

Chshiev, M.

Topical School: Quantum aspects of the Physics of low dimensional systems, Nancy (France), Nov. 23-26 2010

**Controlling magneto-transport in self-assembled (Ge, Mn) nanocolumns**

Cibert, J., E. Arras, V. Baltz, A. Barski, C. Beigné, P. Bayle-Guillemaud, S. Cherifi, T. Devillers, M. Jamet, F. Lançon, P. Pochet, J. Rothman, S. Tardif, A. Titov and I.S. Yu  
18<sup>th</sup> International Symposium on Nanostructures: Physics and Technology, Saint-Petersburg (Russia), Jun. 21-27 2010

**Spintronic phenomena and components for memory logic and RF applications**

Dieny, B.

IEEE International Conference on Integrated Circuit Design and Technology, Grenoble (France), Jun. 2-4 2010

**Hybrid magnetic/CMOS integrated electronics**

Dieny, B.

Nanospintronics Workshop, Hamburg (Germany), Jun. 14-17 2010

**Comment l'électronique de spin pourrait aider à dépasser certaines limites de la microélectronique CMOS**

Dieny, B., G. Prenat, R.C. Sousa, I.L. Prejbeanu, K. Mackay and J.-P. Nozières  
Journées Nationales en Nanosciences et en Nanotechnologies, Lille (France), Nov. 8-9 2010

**Scalable thermally-assisted MRAM**

Dieny, B., G. Prenat, C. Papusoi, J. Alvarez-Héault, E. Gapihan, S. Bandiera, M. Marins de Castro Souza, U. Ebels, S. Auffret, B. Rodmacq, L.D. Buda-Prejbeanu, R.C. Sousa, I.L. Prejbeanu, C. Ducruet, C. Portemont, K. Mackay and J.-P. Nozières  
International Conference of Asian Union of Magnetic Societies, Jeju Island (South Korea), Dec. 5-8 2010

**Temporal coherence of MgO-based magnetic tunnel junction spin torque oscillators**

Ebels, U., M. Quinsat, D. Houssameddine, D. Gusakova, J.F. Sierra Garcia, J.-P. Michel, B. Delaët, M.-C. Cyrille, B. Dieny, D. Mauri and J.A. Katine  
[American Physical Society March Meeting](#), Portland (USA), Mar. 15-19 2010

**Spin-orbit torque: From single atoms to devices**

Gambardella, P., I.M. Miron, G. Gaudin, S. Auffret, B. Rodmacq and A. Schuhl  
SPIE Conference on Nanosciences and Engineering, San Diego (USA), Aug. 1-15 2010

**Towards an electric control of spintronic devices**

Garcia, V., M. Bibes, H. Béa, I. Canero, A. Crassous, J. Allibe, S. Fusil, K. Bouzehouane, E. Jacquet, L. Bocher, A. Gloter, N. Mathur and A. Barthélémy  
7<sup>th</sup> Symposium on Magnetic Multilayers, Berkeley (USA), Sep. 19-24 2010

**Current-induced domain wall motion in ultrathin Pt/Co/AlO<sub>x</sub> wires**

Moore, T.A., I.M. Miron, H. Szambolics, D. Heese, H. Ouslimani, G. Gaudin, S. Auffret, B. Rodmacq, A. Schuhl, S. Pizzini and J. Vogel  
55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Direct correlation between magnetic anisotropy and tunnel magnetoresistance in magnetic tunnel junctions with MgO barrier**

Nistor, L.E., B. Rodmacq, C. Ducruet, C. Portemont, I.L. Prejbeanu, M. Chshiev and B. Dieny  
RIEC International Workshop on Spintronics, Sendai (Japan), Feb. 4-5 2010

**Perpendicular magnetic anisotropy and interlayer coupling in magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, A. Manchon, M. Chshiev, H.X. Yang, B. Dieny, C. Ducruet, C. Portemont, I.L. Prejbeanu, J.H. Lee and K.H. Shin  
International Workshop on Spintronics, Seoul (South Korea), Dec. 9 2010

**Controlling magnetic vortices in circular dots using exchange bias**

Noguès, J., G. Salazar Álvarez, J.J. Kavich, M. Tanase, A. Mugarza, S. Stepanow, A. Potenza, H. Marchetto, S.S. Dhesi, V. Baltz, A. Weber, L.J. Heyderman, A.K. Petford-Long, O. Heinonen, M.D. Baró, B. Dieny, K.S. Buchanan, A. Hoffmann, P. Gambardella and J. Sort  
2<sup>nd</sup> Nordic Workshop on Spintronics and Nanomagnetism, Gimo Herrgård (Sweden), May 7-9 2010

**MRAM: From thermally-assisted to spin transfer torque and beyond**

Nozières, J.-P., Y. Conraux, C. Ducruet, E. Gapihan, L. Lombard, K. Mackay, C. Portemont, I.L. Prejbeanu, S. Auffret, M.-T. Delaye, J. Alvarez-Hérault, C. Papusoi, B. Rodmacq, R.C. Sousa and M. Marins de Castro Souza  
11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

### **STT MRAM with high thermal stability**

Nozières, J.-P., I.L. Prejbeanu, K. Mackay, C. Ducruet, C. Portemont, R.C. Sousa, C. Papusoi, E. Adams, J. Alvarez-Hérault, S. Bandiera, M. Marins de Castro Souza, M.-T. Delaye, Y. Dahmane and B. Dieny

International Symposium on Integrated Functionalities, Puerto Rico (USA), Jun. 13-15 2010

### **STT MRAM with high thermal stability**

Nozières, J.-P., I.L. Prejbeanu, K. Mackay, C. Ducruet, C. Portemont, R.C. Sousa, C. Papusoi, E. Gapihan, J. Alvarez-Hérault, S. Bandiera, M. Marins de Castro Souza, M.-T. Delaye, Y. Dahmane and B. Dieny

International Symposium on Advanced Gate Stack Technology, Troy (USA), Sep. 29-Oct. 1 2010

### **Bias-voltage dependence of perpendicular spin transfer torque in asymmetric MgO-based magnetic tunnel junctions**

Oh, S., S. Park, A. Manchon, M. Chshiev, J. Han, H. Lee, J. Lee, K. Nam, Y. Jo, Y. Kong, B. Dieny and K. Lee

55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

### **Bias-voltage dependence of perpendicular spin transfer torque in asymmetric MgO-based magnetic tunnel junctions**

Oh, S.-C., S.-Y. Park, A. Manchon, M. Chshiev, J.-H. Han, H.-W. Lee, J.-E. Lee, K.-T. Nam, Y. Lo, Y.-C. Kong, B. Dieny and K.-J. Lee

ISAMMA 2010, Sendai (Japan), Jul. 12-16 2010

### **Spin torque-driven excitations in MgO-based magnetic tunnel junctions**

Quinsat, M., J.F. Sierra Garcia, D. Gusakova, J.-P. Michel, D. Houssameddine, U. Ebels, M.-C. Cyrille, B. Delaët, B. Dieny, D. Mauri, J.A. Katine and A. Zeltser

4<sup>th</sup> Symposium on Trends in Magnetism, Ekaterinburg (Russia) Jun. 28-Jul. 2 2010

### **Time domain studies of MgO-based spin torque oscillators**

Quinsat, M., J.F. Sierra Garcia, J.-P. Michel, B. Delaët, B. Viala, U. Ebels, M.-C. Cyrille, B. Dieny, D. Mauri and J.A. Katine

2<sup>nd</sup> Nordic Workshop on Spintronics and Nanomagnetism, Stockholm (Sweden), May 7-9 2010

## **ORAL AND POSTER PRESENTATIONS**

### **Spin transfer torque switching of exchange-pinned TA-MRAM cell**

Alvarez-Hérault, J., R.C. Sousa, E. Gapihan, C. Papusoi, M.-T. Delaye, Y. Dahmane, C. Ducruet, I.L. Prejbeanu, J.-P. Nozières and B. Dieny

Poster: 7<sup>th</sup> Symposium on Magnetic Multilayers, Berkeley (USA), Sep. 19-24 2010

### **Oscillations in spin transfer torque-driven magnetization reversal probability**

Alvarez-Hérault, J., E. Gapihan, R.C. Sousa, C. Papusoi, M.-T. Delaye, I.L. Prejbeanu, B. Delaët, J.-P. Nozières and B. Dieny

Poster: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Retournement par transfert de spin d'une cellule TA-MRAM piégée par échange**  
Alvarez-Hérault, J., R.C. Sousa, E. Gapihan, C. Papusoi, M.-T. Delaye, Y. Dahmane,  
C. Ducruet, I.L. Prejbeanu, J.-P. Nozières and B. Dieny  
Oral: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Modelling and measurement of transport properties in Current-Confining-Path GMR structures**

Amara-Dababi, S., C. Baraduc, N. Strelkov, A. Vedyayev, L.D. Buda-Prejbeanu, M. Chshiev, Y. Liu, M. Li, K. Zhang and B. Dieny  
Oral: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Direct holographic imaging of magnetic stray field from bit-patterned media**

Arm, C., P. Bayle-Guillemaud, E. Gautier, B. Rodmacq and B. Dieny  
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**Holographic imaging of magnetic stray field from bit-patterned media**

Arm, C., P. Bayle-Guillemaud, A. Marty, E. Gautier, J. Moritz, V. Baltz, B. Rodmacq and B. Dieny  
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**Bimodal distributions of blocking temperature and their impact in exchange-biased spintronic nanodevices**

Baltz, V., G. Gaudin, P. Somani, B. Rodmacq, S. Auffret and B. Dieny  
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**Distribution bimodale des spins d'antiferromagnétique responsables de l'anisotropie d'échange**

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**Synthetic antiferromagnet reference layer in magnetic tunnel junctions with perpendicular magnetic anisotropy**

Bandiera, S., R.C. Sousa, Y. Dahmane, C. Ducruet, C. Portemont, S. Auffret, I.L. Prejbeanu and B. Dieny  
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Bandiera, S., R.C. Sousa, C. Ducruet, C. Portemont, S. Auffret, I.L. Prejbeanu, C. Dressler and B. Dieny

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**Magnetic mapping for materials with perpendicular magnetization**

Bayle-Guillemaud, P., C. Arm, A. Masseboeuf, A. Marty, B. Dieny, E. Gautier, E. Snoeck and C. Gatel

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Béa, H., B. Dupé, S. Fusil, J. Allibe, I. Cañero Infante, R. Mattana, E. Jacquet, B. Warot-Fonrose, F. Wilhelm, A. Rogalev, S. Petit, K. Bouzehouane, G. Geneste, B. Dkhil, S. Lisenkov, I. Ponomareva, L. Bellaiche, M. Bibes, P. Paruch and A. Barthélémy

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**Non-adiabatic spin torques in narrow magnetic domain walls**

Burrowes, C., A.P. Mihai, D. Ravelosona, J.V. Kim, L. Vila, A. Marty, F. Garcia Sanchez, L.D. Buda-Prejbeanu, C. Chappert, I. Tudosa, E.E. Fullerton and J.-P. Attané

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**Exploring exchange bias phenomena by soft X-ray spectroscopy and holography**

Camarero, J., E. Jiménez, J. Vogel, C. Tiegs, P. Perna, C. Arm, F. Yakhou-Harris, B. Rodmacq, E. Gautier, S. Auffret, B. Delaup, G. Gaudin, B. Dieny and R. Miranda

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**Influence of spin transfer torque on thermally activated ferromagnetic resonance excitations in magnetic tunnel junctions**

De Mestier, N., C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny

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**Hybrid magnetic/semiconductor integrated electronics**

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**Voltage-dependent exchange coupling in single crystal MgO-based magnetic tunnel junction**

Gangineni, R.B., P.-J. Zermatten, M. Thornton, M.-T. Delaye, L. Vila, G. Gaudin, C. Baraduc, A. Schuhl, B. Negulescu, A. Duluard, C. Tiusan, C. Bellouard, M. Hehn and S. Andrieu

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**Fabrication of single crystal magnetic tunnel junction nano-pillars for RF measurements**

Gangineni, R.B., M.-T. Delaye, L. Vila, C. Baraduc, A. Schuhl, B. Negulescu, A. Duluard, C. Bellouard, C. Tiusan and M. Hehn

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**Current polarity-dependent heating asymmetry in magnetic tunnel junctions**

Gapihan, E., J. Alvarez-Hérault, R.C. Sousa, Y. Dahmane, I.L. Prejbeanu, C. Ducruet, C. Portemont, K. Mackay, J.-P. Nozières and B. Dieny

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**Couche de stockage piégée par FeMn pour mémoires magnétiques à écriture assistée thermiquement (TA-MRAM)**

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**The contribution of X-ray reflectivity and X-ray absorption spectroscopy to the oxygen-induced magnetic properties in Pt/Co/AlO<sub>x</sub>**

Garad, H.M., F. Fettar, L. Ortega, A.Y. Ramos, B. Dieny, B. Rodmacq, J. Marcus and F. Gay

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Garad, H.M., L. Ortega, A. Ramos, J. Marcus, F. Fettar, S. Auffret, B. Rodmacq, B. Dieny and F. Gay

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**Rashba spin-orbit torques in ferromagnetic thin films**

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Gusakova, D., N. Strelkov, A. Vedyayev, N. Ryzhanova, L.D. Buda-Prejbeanu, M. Chshiev, S. Amara-Dababi, A. Vaysset, C. Baraduc and B. Dieny

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Houssameddine, D., M. Quinsat, J.F. Sierra Garcia, J.-P. Michel, K. Garello, B. Delaët, B. Viala, U. Ebels, M.-C. Cyrille, B. Dieny, D. Mauri and J.A. Katine

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Marins de Castro Souza, M., R.C. Sousa, U. Ebels, B. Rodmacq, S. Auffret, C. Ducruet, I.L. Prejbeanu, C. Papusoi, S. Bandiera, C. Portemont, M.-T. Delaye, Y. Dahmane, J. Alvarez-Hérault and B. Dieny  
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**Current-induced domain wall motion in ultrathin Pt/Co/AlO<sub>x</sub> wires with perpendicular magnetic anisotropy**

Moore, T.A., I.M. Miron, H. Szambolics, D. Heese, H. Ouslimani, G. Gaudin, S. Auffret, B. Rodmacq, A. Schuhl, S. Pizzini and J. Vogel

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**Fast current-induced domain wall motion controlled by the Rashba effect**

Moore, T.A., I.M. Miron, H. Szambolics, D. Heese, G. Gaudin, L.D. Buda-Prejbeanu, S. Auffret, B. Rodmacq, A. Schuhl, S. Pizzini and J. Vogel

Oral: Joint European Magnetic Symposia, Krakov (Poland), Aug. 23-28 2010

**Influence of oxidation conditions on indirect coupling in perpendicular magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, S. Auffret, M. Marins de Castro Souza, M. Chshiev, A. Schuhl and B. Dieny

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**Taking advantage of perpendicular magnetic anisotropy in magnetic tunnel junctions**

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**Correlation between magnetoresistance and perpendicular anisotropy in magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, S. Auffret, B. Dieny, C. Ducruet, C. Portemont and I.L. Prejbeanu

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**Couplage indirect oscillant dans des jonctions tunnel à anisotropie perpendiculaire**

Nistor, L.E., B. Rodmacq, S. Auffret, A. Schuhl, M. Chshiev and B. Dieny

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**Interlayer coupling in tunnel junctions with perpendicular magnetic anisotropy**

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Oral: [American Physical Society March Meeting](#), Portland (USA), Mar. 15-19 2010

**100ps precessional spin transfer switching of in-plane magnetized MRAM cell with perpendicular polarizer**

Papusoi, C., S. Bandiera, M. Marins de Castro Souza, Y. Dahmane, U. Ebels, S. Auffret, L.D. Buda-Prejbeanu, A. Vaysset, R.C. Sousa and B. Dieny

Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Phase noise of MgO-based magnetic tunnel junction spin torque oscillators**

Quinsat, M., D. Gusakova, J.F. Sierra Garcia, J.-P. Michel, B. Delaët, B. Viala, U. Ebels, M.-C. Cyrille, B. Dieny, D. Mauri, J.A. Katine and A. Zeltser

Poster: 7<sup>th</sup> Symposium on Magnetic Multilayers, Berkeley (USA), Sep. 19-24 2010

**Etude temporelle de la dynamique de l'aimantation induite par le transfert de spin**

Quinsat, M., D. Houssameddine, J.F. Sierra Garcia, J.-P. Michel, B. Delaët, B. Viala, U. Ebels, M.-C. Cyrille, B. Dieny, D. Mauri and J.A. Katine

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Amplitude and phase noise of MgO-based magnetic tunnel junction oscillators**

Quinsat, M., J.F. Sierra Garcia, D. Gusakova, J.-P. Michel, D. Houssameddine, B. Delaët, U. Ebels, M.-C. Cyrille, B. Dieny, D. Mauri, J.A. Katine and A. Zeltser

Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Magneto-dielectric effect in tri-layered PVDF/CoFeHfN composite materials. Prediction and measurement for tunable microwave applications**

Rasoanoavy, F., V. Laur, S. de Blasi, P. Lezaca, P. Queffelec, K. Garello and B. Viala

Poster: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Magneto-dielectric couplings in FeCoB/PVDF/FeCoB multilayers for microwave tunable applications**

Rasoanoavy, F., V. Laur, K. Garello, B. Viala and P. Queffelec

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**Non-adiabatic spin torques in narrow magnetic domain walls**

Ravelosona, D., C. Burrowes, A.P. Mihai, J.V. Kim, S. Park, C. Chappert, L. Vila, A. Marty, F. Garcia Sanchez, L.D. Buda-Prejbeanu, I. Tudosa, E.E. Fullerton and J.-P. Attané

Oral: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Non-adiabatic spin torques in narrow magnetic domain walls**

Ravelosona, D., C. Burrowes, A.P. Mihai, J.V. Kim, L. Vila, A. Marty, F. Garcia Sanchez, L.D. Buda-Prejbeanu, C. Chappert, I. Tudosa, E.E. Fullerton and J.-P. Attané

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Frequency domain studies of spin torque oscillators based on MgO tunnel junctions**

Sierra Garcia, J.F., M. Quinsat, D. Houssameddine, J.-P. Michel, U. Ebels, B. Delaët, B. Dieny, M.-C. Cyrille, J.A. Katine and D. Mauri

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Spin transfer torque on antiferromagnets**

Somani, P., V. Baltz, H. Béa, G. Gaudin, M. Chshiev and A. Schuhl

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Finite element modelling of charge and spin currents in spintronic devices. Application to current-confined-path structures, MR read heads and lateral spin valves**

Strelkov, N., A. Vedyayev, D. Gusakova, L.D. Buda-Prejbeanu, M. Chshiev and B. Dieny

Poster: 4<sup>th</sup> International Workshop on Spin Currents, Sendai (Japan), Feb. 8-9 2010

**Disorder-induced enhancement of spin torque in magnetic tunnel junctions**

Tang, Y., N. Kioussis and A. Kalitsov

Poster: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Effect of occupation numbers on interlayer exchange coupling**

Terrade, D., A. Kalitsov, H.X. Yang, M. Chshiev, X. Waintal, C. Baraduc and B. Dieny

Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Mechanism of magneto-transport properties modulation via interfacial electronic structure in single crystal Fe-MgO-Fe tunnel junctions**

Tiusan, C., H.X. Yang, M. Chshiev, F. Greullet, C. Bellouard, Y. Lu, F. Montaigne and M. Hehn

Poster: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

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Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Time-resolved imaging of subnanosecond magnetization dynamics in magnetic nanowires induced by current pulses**

Uhlír, V., S. Pizzini, N. Rougemaille, Z. Ishaque, O. Fruchart, V. Cros, E. Jiménez, J. Camarero, G. Gaudin, F. Sirotti, J. Criginski Cezar and J. Vogel  
Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Micromagnetic simulations of spin transfer torque oscillator: Finite elements vs finite volumes**

Vaysset, A., E. Kritsikis, J.-C. Toussaint and L.D. Buda-Prejbeanu  
Poster: IEEE Magnetics Society Summer School, Dresden (Germany), Aug. 16-20 2010

**Etude micromagnétique d'un oscillateur STT: Eléments finis versus volumes finis**

Vaysset, A., E. Kritsikis, J.-C. Toussaint and L.D. Buda-Prejbeanu  
Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Spin-polarized transport in Fe-Cr-(Fe)-MgO-Fe magnetic tunnel junctions using a two-band model**

Vedyayev, A., N. Ryzhanova, N. Strelkov, M. Chshiev and B. Dieny  
Oral: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Couplage entre ferromagnétique et BiFeO<sub>3</sub>: Influence d'un champ électrique**

Viret, M., A. Mougin, D. Lebeugle, D. Colson, L. Ranno, J. Allibe, H. Béa, E. Jacquet, C. Deranlot, M. Bibes and A. Barthélémy  
Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Perpendicular anisotropy of ultrathin epitaxial cobalt films on graphene**

Vo-Van, C., Z. Kassir-Bodon, H.X. Yang, J. Coraux, J. Vogel, S. Pizzini, P. Bayle-Guillemaud, M. Chshiev, L. Ranno, V. Santonacci, P. David, V. Salvador and O. Fruchart  
Oral: Joint European Magnetic Symposia, Krakov (Poland), Aug. 23-28 2010

**Perpendicular magnetic anisotropy of ultrathin epitaxial cobalt films on graphene**

Vo-Van, C., Z. Kassir-Bodon, H.X. Yang, C. Johann, J. Vogel, S. Pizzini, P. Bayle-Guillemaud, M. Chshiev, L. Ranno, V. Santonacci, P. David, V. Salvador and O. Fruchart  
Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Effect of oxidation on interlayer exchange coupling in Fe|MgO|Fe tunnel junctions**

Yang, H.X., M. Chshiev, A. Kalitsov, A. Schuhl and W.H. Butler  
Poster: [American Physical Society March Meeting](#), Portland (USA), Mar. 15-19 2010

**Effect of oxidation conditions on interlayer exchange coupling in Fe-MgO-Fe tunnel junctions from first-principles and tight-binding approaches**

Yang, H.X., M. Chshiev, A. Kalitsov, A. Schuhl and W.H. Butler

Oral: 11<sup>th</sup> Joint MMM-Intermag Conference, Washington (USA), Jan. 18-22 2010

**Effect of oxidation conditions on interlayer exchange coupling in Fe/MgO/Fe MTJs from first-principles and tight-binding approaches**

Yang, H.X., M. Chshiev, A. Kalitsov, A. Schuhl and W.H. Butler

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Oscillatory interlayer exchange coupling in Fe|GaAs|Fe and Fe|ZnSe|Fe tunnel junctions from first-principles calculations**

Yang, H.X., M. Chshiev, A. Kalitsov, A. Schuhl and B. Dieny

Oral: 55<sup>th</sup> International Conference on Magnetism and Magnetic Materials, Atlanta (USA), Nov. 14-18 2010

**Magnetotransport in (Ge, Mn) thin films grown on GaAs(100)**

Yu, I.S., M. Jamet, T. Devillers, A. Barski, P. Bayle-Guillemaud, L. Vila, C. Beigné, V. Baltz, J. Rothman and J. Cibert

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Etude de multicouches (Pt/Co<sub>t</sub>Co)<sub>3</sub>/Pt<sub>tpt</sub>/IrMn: Corrélation nanostructure-propriétés magnétiques**

Zarefy, A., R. Lardé, L. Lechevallier, J.-M. Le Breton, V. Baltz, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, Albé (France), Mar. 31-Apr. 2 2010

**Spin torque oscillator characteristics in coupled networks**

Zarudniev, M., E. Colinet, P. Villard, U. Ebels and G. Scorletti

Oral: First Workshop on Hardware and Software Implementation and Control of Distributed MEMS, Besançon (France), Jun. 28-29 2010

# 2009

## INVITED PRESENTATIONS

### Rational design of half-metallic alloys

Butler, W.H., C. Mewes, C. Liu and M. Chshiev

[American Physical Society March Meeting](#), Pittsburgh (USA), Mar. 16-20 2009

### Voltage dependence properties of ballistic spin currents and spin transfer torques in magnetic tunnel junctions

Chshiev, M.

[American Physical Society March Meeting](#), Pittsburgh (USA), Mar. 16-20 2009

### Description of spintronic phenomena with tight-binding and ab-initio simulation tools

Chshiev, M.

[Workshop de la Fondation Nanosciences](#), "Les apports de la simulation numérique en nanosciences", Grenoble (France), Mar. 23 2009

### Self-assembled ferromagnetic GeMn nanocolumns: A new magnetic semiconductor?

Devillers, T., M. Jamet, A. Barski, P. Bayle-Guillemaud, J. Cibert, S. Cherifi, V. Favre-Nicolin, E. Bellet-Amalric, V. Baltz, J. Rothman, I.S. Yu, C. Porret and S. Tardif

European Workshop on Self-organized Nanomagnets, Aussois (France), Mar. 29-Apr. 3 2009

### Spintronic components for memories and logic applications

Dieny, B.

Nano ICT Cluster Review, Grenoble (France), May 25 2009

### Models for spintronics

Dieny, B.

European School of Magnetism, Timisoara (Romania), Sep. 1-10 2009

### Spintronic components

Dieny, B.

European School of Magnetism, Timisoara (Romania), Sep. 1-10 2009

### Spintronics

Dieny, B.

IEEE Summer School of Magnetism, Nanjing (China), Sep. 1-10 2009

### Lateral piezoelectric response across ferroelectric domain walls in thin films

Guyonnet, J., H. Béa and P. Paruch

International Conference on Piezoresponse Force Microscopy and Nanoscale Phenomena in Polar Materials, Aveiro (Portugal), Jun. 22-27 2009

**Time domain spin current-induced magnetization dynamics**

Houssameddine, D., U. Ebels, K. Garello, J.-P. Michel, M. Quinsat, J.F. Sierra Garcia, B. Delaët, B. Viala, M.-C. Cyrille, B. Dieny, D. Mauri and J.A. Katine  
Spin Dynamics Summer School, Iasi (Romania), Sep. 14-18 2009

**Direct measurement of the non-adiabatic parameter in thin films with perpendicular magnetic anisotropy**

Miron, I.M., P.-J. Zermatten, H. Szambolics, G. Gaudin, S. Auffret, B. Rodmacq, T.A. Moore, G. Serret, M. Bonfim, J. Vogel, S. Pizzini and A. Schuhl  
Intermag Conference, Sacramento (USA), May 4-8 2009

**Finite-element modelling of charge and spin currents in CPP GMR**

Strelkov, N., A. Vedyayev, L.D. Buda-Prejbeanu, M. Chshiev and B. Dieny  
Intermag Conference, Sacramento (USA), May 4-8 2009

**A GHz spintronic-based RF nano-oscillator**

Vincent, P., M.-C. Cyrille, B. Viala, B. Delaët, J.-P. Michel, P. Villard, J. Prouvée, D. Houssameddine, U. Ebels, J.A. Katine, D. Mauri, S.H. Florez, O. Ozatay, L. Folks, B.D. Terris and F. Badets

**Invited:** IEEE International [Solid-State Circuits Conference](#), San Francisco (USA), Feb. 8-12 2009

## ORAL AND POSTER PRESENTATIONS

**Spin transfer torque switching of exchange-pinned TA-MRAM**

Alvarez-Hérault, J., R.C. Sousa, M.-T. Delaye, C. Ducruet, C. Portemont, I.L. Prejbeanu, J.-P. Nozières and B. Dieny  
Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Nanostructured functionalized magnetic particles for biotechnology**

Balint, P., H. Joisten, P. Sabon, S. Auffret, B. Dieny and J. Faure-Vincent  
Poster: Nanobio Europe Grenoble 2009, Grenoble (France), Jun. 16-18 2009

**Balancing interlayer dipolar interactions by RKKY coupling in multilevel magnetic nanostructures with out-of-plane anisotropy**

Baltz, V., B. Rodmacq, A. Bollero, B. Dieny, J. Ferré and S. Landis  
Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Balancing interlayer dipolar interactions by RKKY coupling in multilevel magnetic nanostructures with out-of-plane anisotropy**

Baltz, V., B. Rodmacq, A. Bollero, B. Dieny, J. Ferré and S. Landis  
Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Bimodal distribution of interfacial antiferromagnetic spins responsible for exchange bias in ferromagnetic/antiferromagnetic bilayers**

Baltz, V., B. Rodmacq, A. Zarefy, L. Lechevallier and B. Dieny  
Oral: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Miniaturisation de composants RF grâce à un substrat magnéto-diélectrique à forte permittivité et forte perméabilité**

Bénevent, E., K. Garello, F. Grange and B. Viala

Oral: Journées Nationales Microondes, Grenoble (France), Feb. 5-6 2009

**Analytical model for integrated coplanar waveguide loaded with magneto-dielectric thin films**

Bénevent, E., K. Garello and B. Viala

Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Imaging magnetization reversal in perpendicular exchange-coupled AFM/FM systems by soft X-ray holography**

Camarero, J., C. Tieg, E. Jiménez, J. Vogel, C. Arm, G. Gaudin, E. Gautier, B. Rodmacq, B. Dieny and R. Miranda

Oral: International Conference on Magnetism, Karlsruhe (Germany), Jul. 26-31 2009

**Imaging magnetization reversal of buried interfaces by soft X-ray holography**

Camarero, J., C. Tieg, E. Jiménez, J. Vogel, C. Arm, B. Rodmacq, E. Gautier, S. Auffret, B. Delaup, G. Gaudin, B. Dieny and R. Miranda

Oral: 10<sup>th</sup> International Conference on Atomically Controlled Surfaces, Interfaces and Nanostructures, Granada (Spain), Sep. 21-25 2009

**Amplificateur différentiel faible bruit filtrant et accordable**

Collot, L., J. Lintignat, B. Barelaud, B. Jarry, B. Viala and D. Morche

Poster: Journées Nationales Microondes, Grenoble (France), Feb. 5-6 2009

**Field- and current-induced domain wall propagation in magnetic nanotracks with out-of-plane anisotropy**

Cormier, M., A. Mougin, J. Ferré, A. Thiaville, N. Charpentier, F. Piéchon, J.-P. Jamet, R. Weil and B. Rodmacq

Oral: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Spin transfer torque and thermally-assisted ferromagnetic resonance in magnetic tunnel junctions**

De Mestier, N., R.B. Gangineni, C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Spin transfer torque and thermally-assisted ferromagnetic resonance in magnetic tunnel junctions**

De Mestier, N., R.B. Gangineni, C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny

Oral: Indo-French Workshop on Nanoscience and Nanotechnology, Dehli (India), Oct. 12-14 2009

**Self-assembled GeMn nanocolumns: A new magnetic semiconductor for spintronics applications**

Devillers, T., M. Jamet, A. Barski, P. Bayle-Guillemaud, J. Cibert, S. Cherifi, V. Favre-Nicolin, V. Baltz, J. Rothman, I.S. Yu, C. Porret and S. Tardif

Poster: 5<sup>th</sup> International School and Conference on Spintronics and Quantum Information Technology, Cracow (Poland), Jul. 7-11 2009

**Investigation of metallic/oxide interfaces in Pt/Co/AlO<sub>x</sub> trilayers by hard X-ray reflectivity**

Fettar, F., H.M. Garad, A.Y. Ramos, L. Ortega, J. Marcus, B. Zawilski, P. Plaindoux, S. Auffret, B. Rodmacq and B. Dieny

Poster: Intermag Conference, Sacramento (USA), May 4-8 2009

**Thermally-activated depinning under field and current in wires with perpendicular anisotropy**

Garcia Sanchez, F., L.D. Buda-Prejbeanu, H. Szambolics, A.P. Mihai, J.-P. Attané, L. Vila, A. Marty and J.-C. Toussaint

Oral: 7<sup>th</sup> International Symposium on Hysteresis Modeling and Micromagnetics, Gaithersburg (USA), May 11-14 2009

**Magneto-dielectric thin film heterostructure with high permeability and permittivity**

Garello, K., E. Bénevent, D. Cros and B. Viala

Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Hétérostructure magnéto-diélectrique en couches minces combinant forte perméabilité et forte permittivité**

Garello, K., E. Bénevent, F. Grange and B. Viala

Oral: Journées Nationales Microondes, Grenoble (France), Feb. 5-6 2009

**Investigation of magneto-dielectric thin films as substrates for patch antennas**

Grange, F., K. Garello, E. Bénevent, S. Bories, B. Viala, C. Delaveaud and K. Mahdjoubi

Oral: 3<sup>rd</sup> European Conference on Antennas and Propagation, Berlin (Germany), Mar. 23-27 2009

**Spin injection in silicon at zero magnetic field**

Grenet, L., M. Jamet, P. Warin, P. Noé, V. Calvo, J.-M. Hartmann, L.E. Nistor, B. Rodmacq, S. Auffret and Y. Samson

Oral: EUROMAT 09, Glasgow (United Kingdom), Sep. 7-10 2009

**Numerical study of spin-polarized current-driven excitations of a synthetic antiferromagnetic layer**

Gusakova, D., I. Firastrau, D. Houssameddine, U. Ebels, B. Dieny, M.-C. Cyrille, B. Delaët and L.D. Buda-Prejbeanu

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Spin-polarized current-driven excitations in spin valve nanopillars with a synthetic antiferromagnetic pinned layer**

Houssameddine, D., K.L. Garcia Hernandez, J.F. Sierra Garcia, B. Delaët, U. Ebels, M.-C. Cyrille, J.-P. Michel, D. Gusakova, L.D. Buda-Prejbeanu, B. Dieny, B. Ocker, J. Langer and W. Maas

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Time domain studies of spin torque oscillators based on MgO tunnel junctions**

Houssameddine, D., J.-P. Michel, K. Garello, P. Vincent, U. Ebels, B. Delaët, S.H. Florez, J.A. Katine, D. Mauri, A. Zeltser, O. Ozatay, L. Folks, B.D. Terris, B. Viala, B. Dieny and M.-C. Cyrille

Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Time domain studies of spin torque oscillators based on MgO tunnel junctions**

Houssameddine, D., J.F. Sierra Garcia, K. Garello, J.-P. Michel, U. Ebels, B. Delaët, B. Dieny, M.-C. Cyrille, J.A. Katine and D. Mauri

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Non-symmetric magnetic behavior in exchange-biased systems induced by non-collinear coupling**

Jiménez, E., J. Camarero, J. Sort, J. Noguès, A. Hoffmann, J.M. García Martín, B. Dieny and R. Miranda

Poster: International Conference on Magnetism, Karlsruhe (Germany), Jul. 26-31 2009

**Emergence of non-collinear anisotropies from interfacial magnetic frustration in exchange bias systems**

Jiménez, E., J. Camarero, J. Sort, J. Noguès, N. Mikuszeit, A. Hoffmann, J.M. García Martín, B. Dieny and R. Miranda

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Frustration-induced anisotropies in exchange bias systems**

Jiménez, E., J. Camarero, J. Sort, J. Noguès, N. Mikuszeit, A. Hoffmann, J.M. García Martín, B. Dieny and R. Miranda

Poster: International Conference on Magnetism, Karlsruhe (Germany), Jul. 26-31 2009

**Imaging magnetization reversal of exchange bias systems by soft X-ray holography**

Jiménez, E., J. Camarero, C. Tieg, J. Vogel, C. Arm, G. Gaudin, E. Gautier, B. Rodmacq, B. Dieny and R. Miranda

Poster: European School on Magnetism, Timisoara (Romania), Sep. 1-10 2009

**Imaging magnetization reversal of FM/AFM systems by soft X-ray holography**  
Jiménez, E., C. Tieg, J. Camarero, J. Vogel, C. Arm, G. Gaudin, E. Gautier, B. Rodmacq, B. Dieny and R. Miranda  
Oral: Asociación de Usuarios de Sincrotrón de España, Barcelona (Spain), Sep. 15 2009

**Dynamic binding of magnetic domain walls in an exchange-coupled magnetic Pt/Co/Pt/Co/Pt bilayer**

Metaxas, P.J., R.L. Stamps, J.-P. Jamet, J. Ferré, B. Rodmacq, V. Baltz and P. Politi  
Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Dynamic binding of driven domain walls**

Metaxas, P.J., R.L. Stamps, J.-P. Jamet, J. Ferré, B. Rodmacq and P. Politi  
Oral: Magnet'09, Rome (Italy), Oct. 27-29 2009

**Non-destructive domain wall pinning generated by the stray field of periodic array of ferromagnetic nanodots**

Metaxas, P.J., P.-J. Zermatten, J.-P. Jamet, J. Ferré, G. Gaudin, B. Rodmacq, A. Schuhl and R.L. Stamps  
Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Current-induced domain wall motion in ultrathin Pt/Co/AlO<sub>x</sub> wires with perpendicular magnetic anisotropy**

Moore, T.A., I.M. Miron, G. Gaudin, G. Serret, S. Auffret, B. Rodmacq, A. Schuhl, S. Pizzini, J. Vogel and M. Bonfim  
Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Influence of oxidation conditions of naturally-oxidized MgO barriers in perpendicular magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, S. Auffret, B. Dieny and C. Ducruet  
Poster: European School on Magnetism, Timisoara (Romania), Sep. 1-10 2009

**Antiferromagnetic coupling in sputtered MgO tunnel junctions with perpendicular magnetic anisotropy**

Nistor, L.E., B. Rodmacq, S. Auffret, A. Schuhl and B. Dieny  
Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**Influence of oxidation conditions of naturally-oxidized MgO barriers in perpendicular magnetic tunnel junctions**

Nistor, L.E., B. Rodmacq, C. Ducruet, S. Auffret and B. Dieny  
Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Precessional switching of a thin ferromagnetic film by perpendicularly spin-polarized current pulses**

Papusoi, C., U. Ebels, D. Houssameddine, L.D. Buda-Prejbeanu, R.C. Sousa, B. Delaët, M.-C. Cyrille and B. Dieny

Oral: Intermag Conference, Sacramento (USA), May 4-8 2009

**High spin-polarization of diffusive currents in epitaxial L1<sub>0</sub> FePt and FePd**

Seemann, K.M., M.C. Hickey, V. Baltz, J. Miguel, F. Kronast, W. Kuch, B.J. Hickey and C.H. Marrows

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Imaging magnetization reversal in perpendicular exchange bias systems by soft X-ray holography**

Tieg, C., E. Jiménez, J. Camarero, J. Vogel, C. Arm, G. Gaudin, E. Gautier, B. Rodmacq, B. Dieny and R. Miranda

Poster: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

**Magnetic domain imaging of perpendicular exchange-coupled FM/AFM systems by soft X-ray holography**

Tieg, C., E. Jiménez, J. Camarero, J. Vogel, C. Arm, G. Gaudin, E. Gautier, B. Rodmacq, B. Dieny and R. Miranda

Oral: Deutschen Physikalischen Gesellschaft Spring Meeting, Dresden (Germany), Mar. 22-27 2009

**Structural analysis and magnetic properties of (Pt/Co)<sub>3</sub>/Pt<sub>tPt</sub>/IrMn multilayers**

Zarefy, A., R. Lardé, L. Lechevallier, J.-M. Le Breton, V. Baltz, B. Rodmacq and B. Dieny

Oral: International Conference on Magnetism, Karlsruhe (Germany), Jul. 26-31 2009

**Electronic transport signature of oxygen in fully epitaxial Fe/MgO/Fe system: Towards the understanding of the AF coupling for thin barriers**

Zermatten, P.-J., F. Bonell, G. Gaudin, S. Andrieu, C. Tiusan, M. Chshiev and A. Schuhl

Oral: International Colloquium on Magnetic Films and Surfaces, Berlin (Germany), Jul. 20-24 2009

# 2008

## INVITED PRESENTATIONS

### **Design of new spintronic materials**

Butler, W.H. and M. Chshiev

International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

### **Modelling spintronic phenomena**

Chshiev, M.

MINATEC Crossroads'08 M4NANO, Grenoble (France), Jun. 24 2008

### **Voltage dependence of spin transfer torques in magnetic tunnel junctions**

Chshiev, M.

MINT Workshop "Materials for Spin Transfer Torque MRAM", Tuscaloosa (USA), Oct. 15 2008

### **(Ge, Mn) a ferromagnetic semiconductor for spintronics**

Devillers, T., M. Jamet, A. Barski, I.S. Yu, V. Baltz, S. Tardif, C. Porret, P. Bayle-Guillemaud, J. Rothman, J. Cibert, S. Cherifi and V. Favre-Nicolin

4<sup>th</sup> Handai Nanoscience and Nanotechnology International Symposium, Osaka (Japan), Sep. 29-Oct. 1 2008

### **Magnetic Random Access Memories**

Diény, B.

American Physical Society March Meeting, New Orleans (USA), Mar. 10-14 2008

### **Spin transfer effects in spintronics devices**

Diény, B., U. Ebels, D. Houssameddine, C. Baraduc, C. Thirion, N. de Mestier, S. Petit, A. Manchon, L.D. Buda-Prejbeanu, M.-C. Cyrille, B. Delaët and A. Vedyayev

3<sup>rd</sup> Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 20-25 2008

### **Spintronic devices for memory and logic applications**

Diény, B., R.C. Sousa and G. Prenat

Intermag Conference, Madrid (Spain), May 4-8 2008

### **Large angle steady-state precession induced by a perpendicular polarizer**

Ebels, U.

Spinswitch Workshop, Krakow (Poland), Sep. 3-5 2008

### **Spin-polarized current-induced RF magnetization dynamics**

Ebels, U.

Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Spin transfer-induced coherent microwave emission with large power from nanoscale MgO tunnel junctions**

Ebels, U.

International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

**Current-induced domain wall displacements in materials with out-of-plane anisotropy**

Gaudin, G., I.M. Miron, T.A. Moore, G. Serret, S. Auffret, B. Rodmacq and A. Schuhl  
Colloque Franco-Russe, Moscow (Russia), Dec. 1-2 2008

**Large angle out of plane steady precession induced by spin-transfer with perpendicular to plane polarizer**

Houssameddine, D.

[American Physical Society March Meeting](#), New Orleans (USA), Mar. 10-14 2008

**Les oscillateurs RF spintroniques: Une solution pour les télécoms du futur ?**

Houssameddine, D., I. Firastrau, B. Rodmacq, Y. Dahmane, L.D. Buda-Prejbeanu, U. Ebels, B. Dieny, O. Boulle, B. Georges, M. Darques, A. Khvalkovskiy, V. Cros, J. Grollier, C. Deranlot, K. Bouzehouane, F. Petroff, A. Fert, D. Gusakova, J.-P. Michel, B. Delaët, M.-C. Cyrille, P. Vincent, B. Viala, J.-C. Mage and G. Faini  
Journées Nationales en Nanosciences et en Nanotechnologies, Grenoble (France), Oct. 20-22 2008

**Spin transfer-induced coherent microwave emission with large power from nanoscale MgO tunnel junctions**

Houssameddine, D., S.H. Florez, J.A. Katine, J.-P. Michel, U. Ebels, D. Mauri, O. Ozatay, B. Delaët, B. Viala, L. Folks, B.D. Terris and M.-C. Cyrille  
53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Spin transfer torque and thermally-assisted ferromagnetic resonance in magnetic tunnel junctions**

Petit, S., N. de Mestier, C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny  
Spinswitch Workshop, Krakow (Poland), Sep. 3-5 2008

**Spin torque influence on the high frequency magnetization fluctuations in magnetic tunnel junctions**

Petit, S., N. de Mestier, C. Thirion, U. Ebels, Y. Liu, M. Li, J. Wang and C. Baraduc  
Intermag Conference, Madrid (Spain), May 4-8 2008

**Role of interface resonance states on spin-dependent transport in single crystal magnetic tunnel junctions**

Schuhl, A., P.-J. Zermatten, G. Gaudin, C. Tiusan, F. Greullet and M. Hehn  
SPIE Conference, San Diego (USA), Aug. 10-14 2008

**Innovative weak formulation for the Landau-Lifshitz-Gilbert equations**

Szambolics, H., J.-C. Toussaint, L.D. Buda-Prejbeanu, F. Alouges, E. Kritsikis and O. Fruchart

Intermag Conference, Madrid (Spain), May 4-8 2008

## **Microwave-assisted magnetization reversal in individual nanoparticles**

Thirion, C., C. Raunfast, T. Crozes, V. Dupuis, B. Dieny and W. Wernsdorfer  
53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA),  
Nov. 10-14 2008

## **ORAL AND POSTER PRESENTATIONS**

### **Etude thermocinétique de la dynamique de retournement d'aimantation d'une bicouche ferromagnétique/antiferromagnétique**

Alvarez-Héault, J., C. Papusoi, R.C. Sousa, K. Mackay, I.L. Prejbeanu, J.-P. Nozières and B. Dieny

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

### **Real-time reversal of a ferromagnetic-antiferromagnetic bilayer pinning direction**

Alvarez-Héault, J., R.C. Sousa, Y. Conraux, C. Ducruet, I.L. Prejbeanu, B. Delaët, M.-C. Cyrille, O. Redon, J.-P. Nozières and B. Dieny

Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

### **Pulse-width dependence of barrier breakdown in MgO magnetic tunnel junctions**

Alvarez-Héault, J., R.C. Sousa, C. Papusoi, Y. Conraux, C. Maunoury, I.L. Prejbeanu, K. Mackay, B. Delaët and B. Dieny

Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

### **Etude structurale et magnétique par microscopie électronique à transmission de tricouches Pt/Co/Alumine**

Arm, C., A. Masseboeuf, P. Bayle-Guillemaud, E. Gautier, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

### **Compensation des interactions dipolaires inter-couches par couplage RKKY pour des nanostructures magnétiques à anisotropie hors du plan**

Baltz, V., B. Rodmacq, A. Bollero, B. Dieny, J. Ferré and S. Landis

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

### **Etude des diodes NiFe/Al<sub>2</sub>O<sub>3</sub> pour l'injection de spin dans le silicium**

Benabderrahmane, R., M. Kanoun, N. Bruyant, H. Achard, C. Baraduc and A. Bsiesy

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

### **Electrical study of NiFe/Al<sub>2</sub>O<sub>3</sub>/Si tunnel diodes for magnetic memories**

Benabderrahmane, R., M. Kanoun, N. Bruyant, H. Achard, C. Baraduc and A. Bsiesy

Oral: 20<sup>th</sup> International Conference on Microelectronics, Sharjah (Arab Emirates), Dec. 14-17 2008

### **Electrical study of NiFe/Al<sub>2</sub>O<sub>3</sub>/Si tunnel diodes for spintronic devices on silicon**

Benabderrahmane, R., M. Kanoun, N. Bruyant, C. Baraduc, H. Achard and A. Bsiesy

Oral: 1<sup>st</sup> Transalpine Conference on Nanoscience and Nanotechnology, Lyon (France), Oct. 27-29 2008

**Caractérisation électrique des diodes NiFe/SiO<sub>2</sub>/Si and NiFe/Al<sub>2</sub>O<sub>3</sub>/Si pour l'injection de spin dans le silicium**

Benabderrahmane, R., M. Kanoun, N. Bruyant, C. Baraduc and A. Bsiesy

Oral: 11<sup>èmes</sup> Journées Nationales du Réseau Doctoral en Microélectronique, Bordeaux (France), May 13-16 2008

**Transition de réorientation de l'aimantation dans un film de Pt/Co(0.5nm)/Pt irradié par des ions He**

Bergeard, N., J. Ferré, J.-P. Jamet, A. Mougin and B. Rodmacq

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Physical and electrical study of Permalloy/Al<sub>2</sub>O<sub>3</sub>/Si diodes for spin injection**

Bruyant, N., R. Benabderrahmane, M. Kanoun, C. Baraduc, H. Achard and A. Bsiesy

Poster: Intermag Conference, Madrid (Spain), May 4-8 2008

**Utilization of MEMS tunable inductors in the design of RF voltage-controlled oscillators**

Casha, O., I. Grech, J. Micallef, D. Morche, P. Vincent, E. de Foucauld, B. Viala and J.-P. Michel

Poster: 1<sup>st</sup> Workshop on Information and Communication Technology, Msida (Malta), Nov. 17-18 2008

**Study of MEMS ferromagnetic thin films-based tunable inductors**

Casha, O., I. Grech, J. Micallef, D. Morche, P. Vincent, E. de Foucauld, B. Viala and J.-P. Michel

Poster: 1<sup>st</sup> Workshop on Information and Communication Technology, Msida (Malta), Nov. 17-18 2008

**Analytical properties of ballistic spin currents and torques in magnetic tunnel junctions**

Chshiev, M., A. Kalitsov, A. Manchon, A. Vedyayev and W.H. Butler

Oral: International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

**Non-equilibrium properties of spin transfer torque and tunnel magnetoresistance in magnetic tunnel junctions**

Chshiev, M., A. Kalitsov, I. Theodosis, N. Kioussis and W.H. Butler

Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Field- and current-induced domain wall propagation in magnetic nanotracks with out-of-plane anisotropy**

Cormier, M., A. Mougin, J. Ferré, R. Weil, J.-P. Jamet and B. Rodmacq

Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Perpendicular magnetic anisotropy at Co/AIO<sub>x</sub> interfaces**

Dahmane, Y., S. Auffret, U. Ebels, B. Rodmacq and B. Dieny

Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

**Oscillation de l'anisotropie magnétique perpendiculaire dans des tricouches Pt/Co/AlO<sub>x</sub>**

Dahmane, Y., S. Auffret, U. Ebels, B. Rodmacq and B. Dieny

Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Influence of a spin-polarized current on the thermally-assisted FMR in magnetic tunnel junctions**

De Mestier, N., S. Petit, C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny

Poster: International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

**Influence d'un courant polarisé en spin sur la résonance ferromagnétique assistée thermiquement dans les jonctions tunnel magnétiques**

De Mestier, N., S. Petit, C. Baraduc, C. Thirion, Y. Liu, M. Li, P. Wang and B. Dieny

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Influence of dynamic dipolar interactions and micromagnetic structure on the steady-state oscillations induced by a perpendicular polarizer**

Delaët, B., D. Houssameddine, I. Firastrau, D. Gusakova, U. Ebels, M.-C. Cyrille, B. Dieny and L.D. Buda-Prejbeanu

Poster: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Structural, magnetic and transport properties of self assembled Ge<sub>1-x</sub>Mn<sub>x</sub> nanocolumns in germanium**

Devillers, T., M. Jamet, A. Barski, I.S. Yu, V. Baltz, S. Tardif, C. Porret, P. Bayle-Guillemaud, J. Rothman, J. Cibert, S. Cherifi and V. Favre-Nicolin

Oral: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Nanocolonnes auto-assemblées de GeMn: Magnétisme et structure**

Devillers, T., M. Jamet, A. Barski, I.S. Yu, V. Baltz, S. Tardif, C. Porret, P. Bayle-Guillemaud, J. Rothman, J. Cibert, S. Cherifi, V. Favre-Nicolin and R. Mattana

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**New write approaches to MRAM**

Dieny, B., A. Deac, M. Kerekes, O. Redon, J.-P. Nozières, U. Ebels, I.L. Prejbeanu and R.C. Sousa

Oral: 3<sup>rd</sup> Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 20-25 2008

**Spin-dependent phenomena and their implementation in spintronic devices**

Dieny, B., R.C. Sousa, G. Prenat and U. Ebels

Oral: International [Symposium on VLSI Technology-Systems and Applications](#), Hsinchu (Taiwan), Apr. 21-23 2008

**Projet ANR/PNANO MagICO: Oscillateurs HF à transfert de spin pour les Télécoms du futur**

Ebels, U., D. Cros, B. Delaët, J.-C. Mage and G. Faini

Poster: Journées Nationales en Nanosciences et en Nanotechnologies, Grenoble (France), Oct. 20-22 2008

**Towards an ultra-low power, high density and non-volatile ternary CAM**

El Baraji, M., V. Javerliac and G. Prenat

Oral: 9<sup>th</sup> [Non-Volatile Memory Technology Symposium](#), Pacific Grove (USA), Nov. 11-14 2008

**Influence de l'oxygène sur la structure et le magnétisme dans des tricouches Si/SiO<sub>2</sub>/Pt/Co/AlO<sub>x</sub>**

Garad, H.M., F. Fettar, A.Y. Ramos, L. Ortega, P. Gambardella, J. Noguès, A. Manchon, S. Auffret, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Injection et détection optique de spins dans des semiconducteurs IV-IV et III-V**

Grenet, L., M. Jamet, P. Warin, D. Ferrand, P. Noé, J.-M. Hartmann, B. Rodmacq, S. Auffret and Y. Samson

Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Spin-polarized current-driven excitations in spin valve nanopillars with a synthetic antiferromagnetic pinned layer**

Gusakova, D., D. Houssameddine, B. Delaët, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, B. Dieny, B. Ocker, J. Langer and W. Maas

Poster: International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

**Coupled excitations and state diagram for spin torque oscillators with a planar free layer and planar SAF pinned layer**

Gusakova, D., D. Houssameddine, U. Ebels, M.-C. Cyrille, B. Delaët, B. Dieny and L.D. Buda-Prejbeanu

Poster: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Spin-polarized current-induced excitations in coupled magnetic layers**

Gusakova, D., D. Houssameddine, U. Ebels, M.-C. Cyrille, B. Delaët, B. Dieny and L.D. Buda-Prejbeanu

Poster: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Diagramme d'état d'un oscillateur planaire à transfert de spin avec couche piégée de type SAF**

Gusakova, D., D. Houssameddine, U. Ebels, M.-C. Cyrille, B. Delaët, B. Dieny and L.D. Buda-Prejbeanu

Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Spin-polarized current-induced excitations in a synthetic antiferromagnet**

Gusakova, D., D. Houssameddine, U. Ebels, M.-C. Cyrille, B. Dieny and L.D. Buda-Prejbeanu

Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

**Précessions induites par transfert de spin dans une structure antiferromagnétique synthétique piégée**

Houssameddine, D., D. Gusakova, B. Delaët, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, O. Redon, B. Dieny, B. Ocker, J. Langer and W. Maas  
Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Spin-polarized current-driven excitations in spin valve nanopillars with a synthetic antiferromagnetic pinned layer**

Houssameddine, D., D. Gusakova, B. Delaët, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, O. Redon, B. Dieny, B. Ocker and W. Maas  
Oral: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Spin-polarized current-driven excitations in spin valve nanopillars with a synthetic antiferromagnetic pinned layer**

Houssamedine, D., D. Gusakova, B. Delaët, U. Ebels, M.-C. Cyrille, J.-P. Michel, L.D. Buda-Prejbeanu, O. Redon, B. Dieny, B. Ocker, J. Langer and W. Maas  
Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Role of anisotropies on the asymmetric magnetization reversal behavior in exchange-biased systems**

Jiménez, E., J. Camarero, J. Sort, J. Noguès, N. Mikuszeit, J.M. García Martín, A. Hoffmann, B. Dieny and R. Miranda  
Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

**Interface characterization of [Pt/Co]-IrMn multilayers by Tomographic Atom Probe: Influence of a Pt spacer between [Pt/Co]<sub>n</sub> and IrMn layers**

Lardé, R., A. Zarefy, L. Lechevallier, J.-M. Le Breton, B. Rodmacq and B. Dieny  
Oral: Materials Research Society Fall Meeting, Boston (USA), Dec. 1-5 2008

**Effect of antiferromagnetic interlayer coupling on domain wall in a system with perpendicular anisotropy**

Metaxas, P.J., J.-P. Jamet, J. Ferré, B. Rodmacq, B. Dieny and R.L. Stamps  
Poster: Intermag Conference, Madrid (Spain), May 4-8 2008

**Magnetic domain wall pinning by the stray field of a ferromagnetic dot array**

Metaxas, P.J., J.-P. Jamet, J. Ferré, P.-J. Zermatten, G. Gaudin, B. Rodmacq, A. Schuhl and R.L. Stamps  
Poster: Intermag Conference, Madrid (Spain), May 4-8 2008

**Piégeage de parois dans une couche magnétique ultra-mince par le champ de fuite créé par un réseau de plots ferromagnétiques**

Metaxas, P.J., P.-J. Zermatten, J.-P. Jamet, J. Ferré, G. Gaudin, B. Rodmacq, A. Schuhl and R.L. Stamps  
Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**The domain wall spin torque meter**

Miron, I.M., P.-J. Zermatten, G. Gaudin, S. Auffret, B. Rodmacq and A. Schuhl  
Oral: International Workshop on Magnetic Single Nano-Object, Nancy (France), Nov. 23-25 2008

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Miron, I.M., P.-J. Zermatten, G. Gaudin, S. Auffret, B. Rodmacq and A. Schuhl  
Oral: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

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Miron, I.M., P.-J. Zermatten, G. Gaudin, S. Auffret, B. Rodmacq and A. Schuhl  
Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Imaging a single domain wall position by Extraordinary Hall Effect in nanostructured thin films with perpendicular anisotropy**

Miron, I.M., P.-J. Zermatten, G. Gaudin and A. Schuhl  
Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

**Field- and current-induced domain wall motion in Permalloy nanowires probed by single shot Kerr microscopy**

Möhrke, P., T.A. Moore, M. Kläui, S. Krzyk, J. Rhensius, D. Backes, L.J. Heyderman and U. Rüdiger  
Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Domain wall motion and spin structure transformations in Permalloy nanowires induced by current and field**

Moore, T.A., M. Kläui, P. Möhrke, L. Heyne, D. Backes, J. Rhensius, U. Rüdiger, L.J. Heyderman and J. Thiele  
Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Anisotropie magnétique perpendiculaire dans des structures Pt/Co/Ox et Ox/Co/Pt**

Nistor, L.E., B. Rodmacq, S. Auffret, A. Schuhl and B. Dieny  
Poster: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Magnetization reversal at low current density using a perpendicular polarizer**

Papusoi, C., D. Houssameddine, B. Delaët, B. Rodmacq, F. Ponthenier, U. Ebels, R.C. Sousa, M.-C. Cyrille, L.D. Buda-Prejbeanu and B. Dieny  
Poster: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Predicted and measured permeability variations of bi-layered magnetostriuctive/PVDF composite materials for tunable microwave applications**

Smaali, R., P. Queffelec, S. de Blasi, K. Garello and B. Viala  
Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Mesofrequency magnetisation reversal dynamics probed by dynamic magneto-optical and dynamic magnetoresistance measurements**

Steinke, N., J. Llandro, B. Hong, T.A. Moore and C.H. Barnes

Poster: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

**Domain wall motion in ferromagnetic wires with perpendicular magnetization**

Szambolics, H., J.-C. Toussaint, A. Marty, I.M. Miron and L.D. Buda-Prejbeanu

Poster: Intermag Conference, Madrid (Spain), May 4-8 2008

**Magneto-transport properties of GeMn ferromagnetic thin films grown on GaAs (001)**

Yu, I.S., T. Devillers, M. Jamet, A. Barski, V. Baltz, C. Porret, C. Beigné, J. Rithman and J. Cibert

Poster: 5<sup>th</sup> International Conference on Physics and Applications of Spin-related Phenomena in Semiconductors, Foz do Iguaçu (Brazil), Aug. 3-6 2008

**Interface characterization of a [Pt/Co]<sub>3</sub>/IrMn multilayer by laser-assisted tomographic atom probe**

Zarefy, A., R. Lardé, L. Lechevallier, F. Cuvilly, J.-M. Le Breton, B. Rodmacq and B. Dieny

Oral: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Caractérisation des interfaces dans des multicouches [Pt/Co]<sub>3</sub>/IrMn par sonde atomique tomographique: Influence de l'insertion d'une couche de Pt à l'interface Ferromagnétique / Antiferromagnétique**

Zarefy, A., R. Lardé, L. Lechevallier, J. Juraszek, J.-M. Le Breton, B. Rodmacq and B. Dieny

Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

**Magneto-transport in a single nano-object with a conductive AFM**

Zermatten, P.-J., G. Gaudin and A. Schuhl

Poster: Intermag Conference, Madrid (Spain), May 4-8 2008

**The surface electronic structure: A key parameter in low resistance-area single crystal magnetic tunnel junctions**

Zermatten, P.-J., I.M. Miron, G. Gaudin, A. Schuhl, F. Greullet, M. Hehn and C. Tiusan

Oral: Intermag Conference, Madrid (Spain), May 4-8 2008

**Role of interface resonance states on spin-dependent transport in single crystal magnetic tunnel junctions**

Zermatten, P.-J., I.M. Miron, G. Gaudin, A. Schuhl, F. Greullet, M. Hehn and C. Tiusan

Oral: Joint European Magnetic Symposia, Dublin (Ireland), Sep. 14-19 2008

**Influence des états de surface électroniques sur le transport tunnel dans des jonctions Fe/MgO/Fe épitaxiées**

Zermatten, P.-J., I.M. Miron, G. Gaudin, A. Schuhl, F. Greullet, M. Hehn and C. Tiusan

Oral: Colloque Louis Néel, La Grande Motte (France), Sep. 30-Oct. 3 2008

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Zermatten, P.-J., I.M. Miron, G. Gaudin, A. Schuhl, F. Greullet, M. Hehn and C. Tiusan

Oral: 53<sup>rd</sup> International Conference on Magnetism and Magnetic Materials, Austin (USA), Nov. 10-14 2008

2007

## INVITED PRESENTATIONS

### **Spintronics and nanomagnetism**

Dieny, B.

1<sup>st</sup> Japanese-French Frontiers of Science Symposium, Shanon Village Center (Japan), Jan. 27-29 2007

### **Spin transfer effects in magnetic nanopillars**

Dieny, B., R.C. Sousa, U. Ebels, B. Rodmacq, A. Deac, D. Houssameddine, I. Firastrau and L.D. Buda-Prejbeanu

French-Russian International Colloquium on Nanosciences, Autrans (France), Oct. 10-12 2007

### **New write schemes for magnetic non-volatile memories: Thermally-assisted and spin transfer writing**

Dieny, B., R.C. Sousa, I.L. Prejbeanu and J.-P. Nozières

French-US Workshop on Nanosciences and Nanotechnologies, Argonne (USA), Jun. 3-5 2007

### **Large angle out-of-plane steady precession induced by spin transfer with perpendicular-to-plane polarizer**

Houssameddine, D., U. Ebels, B. Delaët, B. Rodmacq, I. Firastrau, D. Gusakova, F. Ponthenier, M. Brunet, J.-P. Michel, C. Thirion, L.D. Buda-Prejbeanu, M.-C. Cyrille, O. Redon and B. Dieny

52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

### **Spin torque oscillator using a perpendicular polarizer and a planar free layer**

Houssameddine, D., U. Ebels, B. Rodmacq, L.D. Buda-Prejbeanu, D. Gusakova, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, J.-P. Michel, M.-C. Cyrille, O. Redon and M. Brunet

International Symposium on Advanced Magnetic Materials and Applications, Jeju (South Korea), May 28-Jun. 1 2007

### **Perpendicular polarizer and a planar free layer spin torque oscillator**

Houssameddine, D., U. Ebels, B. Rodmacq, L.D. Buda-Prejbeanu, D. Gusakova, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, J.-P. Michel, M.-C. Cyrille, O. Redon, M. Brunet and C. Thirion

Spintronex 2007, London (United Kingdom), Feb. 8 2007

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DPG Tagung 2007, Regensburg (Germany), Mar. 26-30 2007

**Spin torque oscillator using a perpendicular polarizer and a planar free layer**  
Houssameddine, D., U. Ebels, B. Rodmacq, L.D. Buda-Prejbeanu, C. Thirion, J.-P. Michel, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, M. Brunet, M.-C. Cyrille and O. Redon  
Seagate Conclave, Londonderry (Ireland), Jun. 2007

**Controlling magnetic vortices in circular and elliptical dots using exchange bias**

Sort, J., A. Hoffmann, K.S. Buchanan, J. Pearson, E. Menendez, G. Salazar Álvarez, V. Novosad, I.M. Miron, P. Gambardella, A. Weber, L.J. Heyderman, M.D. Baró, B. Rodmacq, B. Dieny and J. Noguès  
52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Heating and cooling dynamics in thermally-assisted MRAM**

Sousa, R.C., C. Papusoi, F. Ciocas-Delille, E. Gapihan, I.L. Prejbeanu, K. Mackay, Y. Conraux, J.-P. Nozières, O. Redon, M. Asbahi and B. Dieny  
52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Theory of spin transfer in magnetic spiral structures**

Vedyayev, A., N. Ryzhanova, D. Gusakova and B. Dieny  
French-Russian International Colloquium on Nanosciences, Autrans (France), Oct. 10-12 2007

## ORAL AND POSTER PRESENTATIONS

**Improved patterned media for probe-based HAMR**

Algré, E., G. Gaudin, A. Bsiesy and J.-P. Nozières  
Poster: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Recording performances onto nano-imprinted pre-patterned perpendicular magnetic media**

Asbahi, M., J. Moritz, B. Dieny and J.-P. Nozières  
Oral: Innovative Mass Storage Technologies, Enschede (The Netherlands), Jun. 18-20 2007

**Al<sub>2</sub>O<sub>3</sub> tunnel barrier as a good candidate for coherent spin injection into silicon**  
Benabderrahmane, R., M. Kanoun, N. Bruyant, C. Baraduc, H. Achard and A. Bsiesy  
Oral: Materials Research Society Conference, Boston (USA), Nov. 27-29 2007

**Spin injection into silicon: Silicon integrated magnetic memory**

Benabderrahmane, R., M. Kanoun, N. Bruyant, B. Pang, C. Baraduc, H. Achard and A. Bsiesy  
Poster: European School on Magnetism, Cluj-Napoca (Romania), Sep. 9-18 2007

**Spin injection into silicon: Silicon integrated magnetic memory**

Benabderrahmane, R., M. Kanoun, A. Bsiesy, C. Baraduc and H. Achard  
Poster: Ecole Doctorale EEATS, Grenoble (France) 2007

**Magnetization reversal of nanostructured tunnel junctions from pre-patterned substrates**

Bollero, A., V. Baltz, B. Negulescu, M. Rickart, J. Vogel, M. Bonfim, S. Landis, P. Freitas and B. Dieny

Poster: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Exchange bias effects in nano-patterned perpendicularly-coupled [Pt/Co]-NiFe bilayers**

Bollero, A., J. Sort, K.S. Buchanan, S. Landis, B. Dieny and J. Noguès

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Characterization of SiO<sub>2</sub> and Al<sub>2</sub>O<sub>3</sub> tunnel barriers for spin injection from ferromagnetic electrode into silicon**

Bruyant, N., R. Benabderrahmane, M. Kanoun, B. Pang, C. Baraduc, A. Bsiesy and H. Achard

Oral: Materials Research Society Fall Meeting, Boston (USA), Nov. 27-29 2007

**Réalisation d'un nanofil de silicium pour l'étude du transport cohérent en spin**

Bruyant, N., D. Peyrade, C. Baraduc, L. Montes and A. Bsiesy

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Coupling between micromagnetism and spin transport**

Buda-Prejbeanu, L.D., D. Gusakova, U. Ebels, A. Vedyayev and J.-C. Toussaint

Oral: 6<sup>th</sup> International Symposium on Hysteresis Modelling and Micromagnetics, Naples (Italy), Jun. 4-6 2007

**Spin torque oscillator from a micromagnetic point of view**

Buda-Prejbeanu, L.D., D. Gusakova, U. Ebels, A. Vedyayev and J.-C. Toussaint

Oral: European School on Magnetism, Cluj-Napoca (Romania), Sep. 9-18 2007

**Composants spintroniques pour applications mémoires, logiques et RF: Statut actuel et perspectives**

Dieny, B.

Oral: Observatoire des Micro-Nano-Technologies, Grenoble (France), May 2007

**Magnetoresistance in Co/Pt-based perpendicular magnetic tunnel junctions**

Ducruet, C., B. Carvello, B. Rodmacq, S. Auffret, G. Gaudin and B. Dieny

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Basculement d'anisotropie dans des jonctions tunnel magnétiques**

Ducruet, C., A. Manchon, S. Auffret, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Projet ANR/PNANO "MagICO": Oscillateurs HF à transfert de spin pour les télécoms du futur**

Ebels, U., V. Cros, B. Delaët, J.-C. Mage and G. Faini

Poster: Journées Nationales en Nanosciences et en Nanotechnologies, Paris (France), Sep. 25-27 2007

**Modélisation des oscillations entretenues par courant polarisé dans une structure à polariseur perpendiculaire**

Firastrau, I., U. Ebels, J.-C. Toussaint and L.D. Buda-Prejbeanu

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Micromagnetic investigation of perpendicular spin torque oscillator**

Firastrau, I., D. Gusakova, D. Houssameddine, U. Ebels, J.-C. Toussaint and L.D. Buda-Prejbeanu

Oral: Spin Waves Workshop, Saint-Petersburg (Russia), Jun. 16-21 2007

**Micromagnetic investigation of perpendicular spin torque oscillator**

Firastrau, I., D. Gusakova, D. Houssameddine, U. Ebels, J.-C. Toussaint and L.D. Buda-Prejbeanu

Poster: International Conference on Spintronics Materials and Technology, York (United Kingdom), Aug. 7-10 2007

**Numerical investigation of finite size effects on exchange-biased nanostructures**

Gabor, M., V. Baltz, A. Bollero, T. Jourdan, J. Sort, B. Rodmacq, F. Lançon and B. Dieny

Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Calculation of the spin torque in non-coplanar double spin valve structures FM1/P/FL/P/FM2**

Gusakova, D., U. Ebels, A. Vedyayev, I. Firastrau, D. Houssameddine, B. Dieny and L.D. Buda-Prejbeanu

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

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Poster: International Conference on Spintronics Materials and Technology, York (United Kingdom), Aug. 7-10 2007

**Micromagnetic and macrospin simulations for the “perpendicular polarizer-planar free layer” spin torque oscillator**

Gusakova, D., I. Firastrau, A. Vedyayev, D. Houssameddine, U. Ebels, J.-C. Toussaint, B. Dieny and L.D. Buda-Prejbeanu

Poster: International Symposium on Advanced Magnetic Materials and Applications, Jeju (South Korea), May 28-Jun. 1 2007

**Spin torque in non-coplanar structures F1/P/F2/P/F3**

Gusakova, D., A. Vedyayev and U. Ebels

Poster: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Spin current-induced excitations for the "perpendicular polarizer-planar free layer" configuration**

Houssameddine, D., B. Delaët, U. Ebels, B. Rodmacq, F. Ponthenier, C. Thirion, M. Brunet, M.-C. Cyrille, O. Redon and B. Dieny

Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Spin torque oscillator using a perpendicular polarizer and a planar free layer**

Houssameddine, D., U. Ebels, D. Gusakova, B. Rodmacq, L.D. Buda-Prejbeanu, C. Thirion, J.-P. Michel, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, M. Brunet and M.-C. Cyrille

Oral: International Conference on Spintronics Materials and Technology, York (United Kingdom), Aug. 7-10 2007

**Spin torque oscillator using a perpendicular polarizer and a planar free layer**

Houssameddine, D., U. Ebels, D. Gusakova, B. Rodmacq, L.D. Buda-Prejbeanu, C. Thirion, J.-P. Michel, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, M. Brunet, M.-C. Cyrille and O. Redon

Oral: Spin Waves Workshop, Saint-Petersburg (Russia), Jun. 16-21 2007

**Spin torque oscillator using a perpendicular polarizer**

Houssameddine, D., U. Ebels, B. Rodmacq, C. Thirion, L.D. Buda-Prejbeanu, D. Gusakova, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, M. Brunet, J.-P. Michel and M.-C. Cyrille

Poster: European School on Magnetism, Cluj-Napoca (Romania), Sep. 9-18 2007

**Précession entretenue hors du plan dans un oscillateur à polariseur perpendiculaire**

Houssameddine, D., U. Ebels, B. Rodmacq, C. Thirion, L.D. Buda-Prejbeanu, D. Gusakova, B. Dieny, B. Delaët, I. Firastrau, F. Ponthenier, M. Brunet, J.-P. Michel, M.-C. Cyrille and O. Redon

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Asymmetry reversal phenomena in exchange-biased systems: Role of anisotropies and interfacial magnetic frustration**

Jiménez, E., J. Camarero, N. Mikuszeit, R. Miranda, J.M. García Martín, J. Sort, J. Noguès, A. Hoffmann and B. Dieny

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Simulations magnétiques atomistiques des effets de dimension latérale réduite sur l'anisotropie d'échange de nanostructures ferro/antiferromagnétiques**

Jourdan, T., M. Gabor, V. Baltz, A. Bollero, B. Dieny, A. Marty and F. Lançon

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Electrical study of ferromagnet metal gate MOS diode: Towards a magnetic memory cell integrated on silicon**

Kanoun, M., R. Benabderrahmane, C. Duluard, A. Bsiesy, C. Baraduc, N. Bruyant, H. Achard and A. Filipe

Oral: Materials Research Society Spring Meeting, San Francisco (USA), Apr. 9-14 2007

**Self-torque induced by local spin transfer effect and lateral spin diffusion in magnetic layer with inhomogeneous magnetization**

Lee, K.J. and B. Dieny

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Modeling study on the self-consistent feedback between inhomogeneous magnetization and spin torque**

Lee, K.J. and B. Dieny

Oral: [American Physical Society March Meeting](#), Denver (USA), Mar. 5-9 2007

**X-ray spectroscopy analysis of oxygen-induced perpendicular magnetic anisotropy in Pt/Co/AlO<sub>x</sub> trilayers**

Manchon, A., L. Lombard, S. Auffret, C. Ducruet, B. Rodmacq, B. Dieny, S. Pizzini, J. Vogel, V. Uhlíř, M. Hochstrasser and G. Panaccione

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Impurity-induced resonant spin torque and spin transport in a magnetic tunnel junction**

Manchon, A., N. Ryzhanova, A. Vedyayev and B. Dieny

Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Theoretical studies of spin transfer torques in magnetic tunnel junctions**

Manchon, A., N. Ryzhanova, A. Vedyayev and B. Dieny

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Theoretical investigation of currents and torques in F/AF bilayers**

Manchon, A., N. Ryzhanova, A. Vedyayev and B. Dieny

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Spin transfer torque in ferromagnetic/spin spiral bilayers**

Manchon, A., N. Ryzhanova, A. Vedyayev and B. Dieny

Poster: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Creep and flow regimes of magnetic domain wall motion in ultrathin Pt/Co/Pt films with perpendicular anisotropy**

Metaxas, P.J., J.-P. Jamet, M. Cormier, A. Mougin, J. Ferré, V. Baltz, B. Rodmacq, B. Dieny and R.L. Stamps

Oral: International Symposium on Magnetic Multilayers, Perth (Australia), Oct. 15-19 2007

**Transition between creep and viscous motion in ultrathin Pt/Co/Pt films with perpendicular anisotropy**

Metaxas, P.J., J.-P. Jamet, A. Mougin, M. Cormier, J. Adam, J. Ferré, V. Baltz, B. Rodmacq, B. Dieny and R.L. Stamps

Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Propagation de parois de domaines sous champ dans des couches ultramince à anisotropie perpendiculaire: Régimes de "creep" et "visqueux"**

Metaxas, P.J., J.-P. Jamet, A. Mougin, M. Cormier, J. Adam, J. Ferré, V. Baltz, B. Rodmacq, B. Dieny and R.L. Stamps

Oral: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Imaging a single domain wall position by Extraordinary Hall Effect in nanostructured thin films with perpendicular anisotropy**

Miron, I.M., P.-J. Zermatten, G. Gaudin, B. Dieny and A. Schuhl

Oral: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Imagerie de la structure en domaines par Effet Hall Extraordinaire dans des nanostructures à anisotropie perpendiculaire**

Miron, I.M., P.-J. Zermatten, G. Gaudin, I.L. Prejbeanu, B. Rodmacq, J. Moritz and B. Dieny

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Extraordinary Hall effect in CoPt:SiO<sub>2</sub> composite thin films**

Moritz, J., I.M. Miron, I.L. Prejbeanu, B. Rodmacq and B. Dieny

Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Injection of spin into silicon**

Pang, B., R. Benabderrahmane, N. Bruyant, M. Kanoun, H. Achard, C. Baraduc and A. Bsiesy

Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Heating and cooling dynamics in thermally-assisted MRAM**

Papusoi, C., R.C. Sousa, I.L. Prejbeanu, J.-P. Nozières, K. Mackay and B. Dieny

Oral: International Conference on Innovative Mass Storage Technologies, Amsterdam (The Netherlands), Jun. 18-20 2007

**Influence du transfert de spin sur les fluctuations d'aimantation dans les jonctions tunnel**

Petit, S., C. Baraduc, C. Thirion, U. Ebels, B. Dieny, Y. Liu, M. Li and P. Wang

Oral: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Spin torque influence on the noise spectrum of TMR read heads**

Petit, S., C. Baraduc, C. Thirion, U. Ebels, Y. Liu, M. Li, P. Wang and B. Dieny  
Oral: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**CMOS/Magnetic hybrid architectures**

Prenat, G., M. El Baraji, W. Guo, R.C. Sousa, L.D. Buda-Prejbeanu, B. Dieny, V. Javerliac, J.-P. Nozières, W. Zhao and E. Belhaire  
Oral: 14<sup>th</sup> IEEE International [Conference on Electronics, Circuits and Systems](#), Marrakech (Marocco), Dec. 11-14 2007

**Interlayer exchange coupling in single crystal magnetic tunnel junctions studied by electron holography**

Shoeck, E., G. Ben Assayag, C. Tiusan, F. Greullet and A. Schuhl  
Oral: Materials Research Society Fall Meeting, Boston (USA), Nov. 26-30 2007

**Determination of the absolute heat capacity in magnetic tunnel junction nanopillars**

Sousa, R.C., C. Papusoi, F. Ciocas-Delille, L.D. Buda-Prejbeanu, J.-P. Nozières, K. Mackay, O. Redon, A. Astier and B. Dieny  
Oral: International Conference on Innovative Mass Storage Technologies, Amsterdam (The Netherlands), Jun. 18-20 2007

**Domain wall motion in ferromagnetic wires with perpendicular magnetization**

Szambolics, H., J.-C. Toussaint, A. Marty, I.M. Miron and L.D. Buda-Prejbeanu  
Poster: 52<sup>nd</sup> International Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 5-9 2007

**Finite element approach for 2d micromagnetic systems**

Szambolics, H., L.D. Buda-Prejbeanu, J.-C. Toussaint and O. Fruchart  
Oral: Consol Conference, Grenoble (France), Oct. 23-24 2007

**Towards spin valve magnetization reversal by spin-polarized current injection from an AFM tip**

Zermatten, P.-J., G. Gaudin, I.L. Prejbeanu and J.-P. Nozières  
Poster: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**Vers l'écriture/lecture de points mémoires magnétiques par injection de courant sous pointe AFM**

Zermatten, P.-J., G. Maris, I.L. Prejbeanu and G. Gaudin  
Poster: Colloque Louis Néel, Lyon (France), Mar. 14-16 2007

**Influence of magnetic dots on a continuous layer: A new approach for patterned media**

Zermatten, P.-J., B. Rodmacq, I.L. Prejbeanu and G. Gaudin  
Poster: 10<sup>th</sup> Joint MMM-Intermag Conference, Baltimore (USA), Jan. 7-11 2007

**TAS-MRAM-based non-volatile FPGA logic circuit**

Zhao, W.S., E. Belhaire, B. Dieny, G. Prenat and C. Chappert  
Oral: International [Conference on Field-Programmable Technology](#), Kitakyushu (Japan), Dec. 12-14 2007

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## INVITED PRESENTATIONS

### **Finite size effects on the exchange bias properties of ferromagnetic/antiferromagnetic bilayers**

Baltz, V., J. Sort, A. Bollero, S. Landis, B. Rodmacq and B. Dieny

[Intermag Conference](#), San Diego (USA), May 8-12 2006

### **New write scheme for magnetic non-volatile memories: Thermally-assisted and spin transfer writing**

Dieny, B., A. Deac, M. Kerekes, O. Redon, J.-P. Nozières, U. Ebels, I.L. Prejbeanu and R.C. Sousa

International Symposium on Trends in Nanotechnology, Grenoble (France), Sep. 4-8 2006

### **Thermal and spin torque excitations in MRAM and TMR heads**

Dieny, B., S. Petit, A. Manchon, M. Quillot, M. Kerekes, R.C. Sousa, I.L. Prejbeanu, U. Ebels, C. Baraduc, C. Thirion, O. Redon, J.-P. Nozières, Y. Liu, M. Li and J. Wang French-US Workshop on Spin Electronics, Saint-Pierre de Chartreuse (France), Jun. 12-14 2006

### **Spin current-induced magnetisation dynamics: Experiments, simulation and applications**

Ebels, U.

French-British Spintronex Seminar, Paris (France), Apr. 5 2006

### **De la dynamique de l'aimantation aux oscillateurs RF spintronique**

Ebels, U.

Journée MRAM Espace et Hyperfréquence, Toulouse (France), Mar. 16 2006

### **Spintronics and technology of components**

Manchon, A., B. Dieny and A. Bsiesy

2<sup>nd</sup> International Nanotechnology Conference on Communication and Cooperation, Washington (USA), May 15 2006

### **Discrete media made from pre-patterned wafers: A promising route towards ultra-high density magnetic recording**

Moritz, J., M. Asbahi, V. Baltz, B. Rodmacq, J.-P. Nozières and B. Dieny

70<sup>th</sup> Meeting of the Deutschen Physikalischen Gesellschaft, Dresden (Germany), Mar. 27-31 2006

### **Using exchange bias to control magnetic vortices**

Sort, J., K.S. Buchanan, M. Grimsditch, S.H. Chung, V. Novosad, A. Hoffmann, G. Salazar Álvarez, M.D. Baró, B. Dieny and J. Noguès

Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

### **Low-power MRAM**

Sousa, R.C., M. Kerekes, I.L. Prejbeanu, O. Redon and B. Dieny

Workshop Nemesys: Future non-volatile memory cell concepts for application in 65nm and beyond, Fuveau (France), May 11 2006

### **Les applications de la spintronique**

Sousa, R.C., I.L. Prejbeanu, M. Kerekes, U. Ebels, B. Rodmacq and B. Dieny

Matériaux 2006, Dijon (France), Nov. 13 2006

### **Thermally-assisted magnetic memories**

Sousa, R.C., I.L. Prejbeanu, M. Kerekes, O. Redon, A. Astier, H. Sibuet, U. Ebels, F. Ponthenier, A. Persico, H. Achard, J.-P. Nozières and B. Dieny

19<sup>th</sup> International Colloquium on Magnetic Films and Surfaces, Sendai (Japan), Aug. 14-18 2006

### **Heating regimes of thermally-assisted magnetic memories**

Sousa, R.C., I.L. Prejbeanu, O. Redon, A. Astier, H. Sibuet and B. Dieny

Morris 2006 Workshop, Chiba (Japan), Jun. 6-8 2006

### **La dynamique de l'aimantation induite par courant polarisé en spin: Applications, expériences et simulations**

Thirion, C., S. Petit, C. Baraduc, U. Ebels and B. Dieny

1<sup>ères</sup> Journées Scientifiques Hypermag, Tours (France), Feb. 2006

## **ORAL AND POSTER PRESENTATIONS**

### **Improved patterned media for probe-based HAMR**

Algré, E., G. Gaudin, A. Bsiesy and J.-P. Nozières

Oral: Innovative Mass Storage Technologies, Grenoble (France), May 29-31 2006

### **Improved patterned media for probe-based HAMR**

Algré, E., G. Gaudin, A. Bsiesy and J.-P. Nozières

Poster: Morris Workshop on Thermal and Optical Magnetic Materials and Devices, Chiba (Japan), Jun. 6-8 2006

### **Magnetic recording properties onto nano-imprinted patterned media**

Asbahi, M., J. Moritz, J.-P. Nozières, B. Dieny, R.J.M. van de Veerdonk, C. Gourgon and C. Perret

Oral: [Intermag Conference](#), San Diego (USA), May 8-12 2006

### **Magnetic recording onto nano-imprinted pre-patterned media**

Asbahi, M., J. Moritz, J.-P. Nozières, B. Dieny, R.J.M. van de Veerdonk, C. Gourgon and C. Perret

Poster: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

### **Spin torque influence on the noise spectrum of TMR read heads**

Baraduc, C., S. Petit, C. Thirion, U. Ebels, Y. Liu, M. Li, J. Wang and B. Dieny

Oral: International School and Workshop, Strasbourg (France), Oct. 10-12 2006

**Out-of-plane exchange bias in [Pt/Co]-IrMn nanostructures**

Bollero, A., V. Baltz, S. Landis, B. Rodmacq and B. Dieny

Oral: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

**Exchange bias effect in annealed (Pt/Co)/NiFe systems**

Bollero, A., L.D. Buda-Prejbeanu, V. Baltz, B. Rodmacq and B. Dieny

Oral: [Intermag Conference](#), San Diego (USA), May 8-12 2006**Exchange bias in systems composed of coupled ferromagnetic bilayers**

Bollero, A., L.D. Buda-Prejbeanu, V. Baltz, J. Sort, B. Rodmacq and B. Dieny

Poster: Innovative Mass Storage Technologies, Grenoble (France), May 29-31 2006

**Réalisation d'un nanofil de silicium pour l'étude du transport cohérent en spin**

Bruyant, N.

Poster: IEMN Workshop Nanofil, Lille (France), Jun. 5-7 2006

**Réalisation d'un nanofil de silicium pour l'étude du transport cohérent en spin**

Bruyant, N., D. Peyrade, C. Baraduc, L. Montes and A. Bsiesy

Poster: Réunion finale du GdR SESAME - Electronique de Spin associant magnétisme et semiconducteurs, Palaiseau (France), Oct. 23-24 2006

**High-power magnetization precession induced by spin transfer in pinned synthetic antiferromagnetic layers**

Deac, A., U. Ebels, Y. Liu, O. Redon, M. Li, S. Petit, P. Wang and B. Dieny

Oral: [Intermag Conference](#), San Diego (USA), Aug. 8-12 2006**High-power magnetization precession induced by spin transfer in pinned synthetic antiferromagnetic layers**

Deac, A., U. Ebels, Y. Liu, O. Redon, M. Li, P. Wang and B. Dieny

Oral: International Conference on Magnetism, Kyoto (Japan), Aug. 20-25 2006

**Influence of the bias sign on the dynamic modes induced by spin transfer in exchange-biased spin valves**

Deac, A., O. Redon, Y. Liu, S. Petit, M. Li, P. Wang and B. Dieny

Poster: [Intermag Conference](#), San Diego (USA), May 8-12 2006**Tailoring hysteresis loops of ferro/antiferromagnetic systems by imprinting different magnetization states in the antiferromagnet**

Dieny, B. and V. Baltz

Oral: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

**Anisotropy crossover in magnetic tunnel junctions**

Ducruet, C., A. Manchon, S. Auffret, B. Rodmacq and B. Dieny

Poster: Innovative Mass Storage Technologies, Grenoble (France), May 29-31 2006

**Projet ANR/PNANO "MagICO": Oscillateurs HF à transfert de spin pour les télécoms du futur**

Ebels, U., V. Cros, B. Delaët, J.-C. Mage and G. Faini

Poster: Journées Nationales en Nanosciences et en Nanotechnologies, Besançon (France), Nov. 6-8 2006

**Dynamic state diagram for the spin current-induced magnetization dynamics using a perpendicular polarizer**

Ebels, U., I. Firastrau, L.D. Buda-Prejbeanu, C. Thirion and B. Dieny

Poster: International Symposium on Trends in Nanotechnology, Grenoble (France), Sep. 4-8 2006

**Influence of the angular-dependent spin polarization  $g(\theta)$  on the critical current densities for perpendicular polarizer-planar free layer structures**

Ebels, U., I. Firastrau, L.D. Buda-Prejbeanu, J.-C. Toussaint and B. Dieny

Poster: International School & Workshop on Modern Problems of Spin Dynamics, Strasbourg (France), Oct. 10-12 2006

**Influence of the angular-dependent spin polarization  $g(\theta)$  on the critical current densities for perpendicular polarizer-planar free layer structures**

Ebels, U., I. Firastrau, L.D. Buda-Prejbeanu, J.-C. Toussaint and B. Dieny

Poster: International Workshop on Spin Transfer, Nancy (France), Oct. 2-4 2006

**Dynamic state diagram for the spin current-induced magnetization dynamics using a perpendicular polarizer**

Ebels, U., C. Thirion, I. Firastrau, L.D. Buda-Prejbeanu and B. Dieny

Poster: 19<sup>th</sup> International Colloquium on Magnetic Films and Surfaces, Sendai (Japan), Aug. 14-18 2006

**Metal electrodes work function measurement at deca-nanometer scale using Kelvin probe force microscope: A step forward to the comprehension of deposition techniques impact on devices electrical properties**

Gaillard, N., D. Mariolle, F. Bertin, M. Gros-Jean and A. Bsiesy

Oral: Materials Research Society Spring Meeting, San Francisco (USA), Apr. 17-21 2006

**Modeling study on the self-consistent feedback between spin torque and inhomogeneous magnetization**

Lee, K.J. and B. Dieny

Oral: International Workshop on Spin Transfer, Nancy (France), Oct. 2-4 2006

**Interpretation of relationship between CPP-GMR and spin torque amplitude**

Manchon, A., N. Strelkov, A. Deac, A. Vedyayev and B. Dieny

Oral: Intermag Conference, San Diego (USA), May 8-12 2006

**Linear relationship between spin transfer and magnetoresistance in metallic magnetic multilayers and magnetic tunnel junctions**

Manchon, A., N. Strelkov, N. Ryzhanova, A. Vedyayev, B. Dieny and J.C. Slonczewski

Poster: Innovative Mass Storage Technologies, Grenoble (France), May 29-31 2006

**Creep and viscous motion of domain walls in ultrathin Pt/Co/Pt films**

Metaxas, P.J., J.-P. Jamet, A. Mougin, J. Ferré, V. Baltz, B. Rodmacq, B. Dieny and R.L. Stamps

Oral: Intermag Conference, San Diego (USA), May 8-12 2006

**Extraordinary Hall Effect in CoPtSiO<sub>2</sub> composite thin films**

Miron, I.M.

Poster: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

**Tailoring hysteresis loops of ferro/antiferromagnetic systems by imprinting different magnetization states in the antiferromagnet**

Noguès, J., J. Sort, S. Brück, A. Hoffmann, K.S. Buchanan, G. Salazar Álvarez, V. Baltz, S.H. Chung, V. Novosad, S. Surinach, J.S. Munoz, B. Dieny and M.D. Baró

Oral: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

**New asymmetric reversal mode in ferromagnetic-antiferromagnetic dots due to imprinted displaced vortices**

Noguès, J., J. Sort, A. Hoffmann, K.S. Buchanan, S.H. Chung, M. Grimsditch, V. Novosad, G. Salazar Álvarez, M.D. Baró and B. Dieny

Oral: International Conference on Magnetism, Kyoto (Japan), Aug. 20-25 2006

**Spin torque influence on the noise spectrum of TMR read heads**

Petit, S., C. Baraduc, C. Thirion, U. Ebels, Y. Liu, M. Li, J. Wang and B. Dieny

Oral: International Workshop on Spin Transfer, Nancy (France), Oct. 2-4 2006

**Spin torque influence on the noise spectrum of TMR read heads**

Petit, S., C. Baraduc, C. Thirion, U. Ebels, Y. Liu, M. Li, J. Wang and B. Dieny

Poster: French-US Workshop on Spin Electronics, Saint-Pierre de Chartreuse (France), Jun. 12-14 2006

**Réalisation d'un banc de mesure de bruit large bande**

Petit, S., C. Thirion, C. Baraduc, U. Ebels and B. Dieny

Poster: Hypermag, Tours (France), Feb. 1-2 2006

**Magnetization dynamics of (Pt/Co)<sub>n</sub>/Pt/AF multilayers studied by time-resolved Kerr effect and Kerr microscopy**

Pizzini, S., F. Romanens, J. Vogel, F. Yokaichiya, J. Camarero, J. Sort, F. Garcia and B. Dieny

Poster: Joint European Magnetic Symposia, San Sebastian (Spain), Jun. 26-30 2006

**Spin transfer in tunnel magnetic junction with resonance states due to impurities**

Ryzhanova, N., A. Manchon, B. Dieny and A. Vedyayev

Poster: [Intermag Conference](#), San Diego (USA), May 8-12 2006**Spin transfer in magnetic tunneling and metallic spin valves**

Ryzhanova, N., A. Manchon, B. Dieny, A. Vedyayev and N. Strelkov

Poster: French-US Workshop on Spin Electronics, Saint-Pierre de Chartreuse (France), Jun. 12-14 2006

**Theoretical study of current-driven spin transfer torque and interlayer exchange coupling in a magnetic tunnel junction**

Ryzhanova, N., A. Manchon, B. Dieny and A. Vedyayev

Poster: International Workshop on Spin Transfer, Nancy (France), Oct. 2-4 2006

**Exploiting exchange bias length scales to fully tailor double-shifted hysteresis loops**

Sort, J., S. Brück, V. Baltz, S. Surinach, J.S. Munoz, B. Dieny, M.D. Baró and J. Noguès

Oral: [Intermag Conference](#), San Diego (USA), May 8-12 2006

**Controlling magnetic vortices through exchange bias**

Sort, J., K.S. Buchanan, M. Grimsditch, S.H. Chung, V. Novosad, A. Hoffmann, G. Salazar Álvarez, M.D. Baró, B. Dieny and J. Noguès

Oral: [Intermag Conference](#), San Diego (USA), May 8-12 2006

**Heating regimes in thermally-assisted MRAM**

Sousa, R.C., M. Kerekes, I.L. Prejbeanu, O. Redon, A. Astier, H. Sibuet and B. Dieny  
Oral: Innovative Mass Storage Technologies, Grenoble (France), May 29-31 2006

**Magnetization reversal of spin valve layers by injection of spin-polarized current under AFM tips**

Zermatten, P.-J., I.L. Prejbeanu, G. Gaudin and J.-P. Nozières

Poster: Innovative Mass Storage Technologies, Grenoble (France), Jun. 29-31 2006

**Towards spin valve magnetization reversal by spin-polarized current injection from an AFM tip**

Zermatten, P.-J., I.L. Prejbeanu, G. Gaudin and J.-P. Nozières

Poster: International Workshop on Spin Transfer, Nancy (France), Oct. 2-4 2006

**A non-volatile flip-flop in magnetic FPGA chip**

Zhao, W., E. Belhaire, V. Javerliac, C. Chappert and B. Dieny

Poster: International [Conference on Design and Test of Integrated Systems in Nanoscale Technology](#), Tunis (Tunisia), Sep. 5-7 2006

**Evaluation of a non-volatile FPGA based on MRAM technology**

Zhao, W., E. Belhaire, V. Javerliac, C. Chappert and B. Dieny

Oral: International [Conference on Integrated Circuit Design and Technology](#), Padova (Italy), Aug. 14 2006

**Macro-model of spin transfer torque-based magnetic tunnel junction device for hybrid magnetic-CMOS design**

Zhao, W., E. Belhaire, Q. Mistral, C. Chappert, V. Javerliac, B. Dieny and E. Nicolle

Oral: International [Behavioral Modelling and Simulation Workshop](#), San Jose (USA), Sep. 14-15 2006

# 2005

## INVITED PRESENTATIONS

### New write approaches to MRAM

Dieny, B., A. Deac, M. Kerekes, O. Redon, J.-P. Nozières, U. Ebels, I.L. Prejbeanu and R.C. Sousa

3<sup>rd</sup> Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 25-30 2005

### Magnetization switching in nanopillars using current-perpendicular-to-plane: Thermally-assisted and spin transfer writing

Dieny, B., A. Deac, M. Kerekes, O. Redon, J.-P. Nozières, U. Ebels, I.L. Prejbeanu and R.C. Sousa

International Workshop "Manipulating Quantum Spins and Classical Dots", Les Houches (France), Apr. 26-29 2005

### Magnetization switching in nanopillars using-current-perpendicular-to-plane: Thermally-assisted and spin transfer writing

Dieny, B., A. Deac, M. Kerekes, O. Redon, J.-P. Nozières, U. Ebels, L.D. Prejbeanu and R.C. Sousa

6<sup>th</sup> International Symposium on Physics of Magnetic Materials, Singapore, Sep. 14-16 2005

### Patterned media for ultra-high density storage

Moritz, J., M. Asbahi, E. Algré, G. Gaudin, B. Dieny and J.-P. Nozières

3<sup>rd</sup> Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 25-30 2005

### Exchange-biased vortices in submicron ferromagnetic dots

Noguès, J., J. Sort, A. Hoffmann, S.H. Chung, K.S. Buchanan, M. Grimsditch, M.D. Baró and B. Dieny

XXVIII Encontro Nacional de Física da Matéria Condensada, Santos (Brazil), May 10-14 2005

### Thermo-magnetic random access memory: A new route for low power applications

Redon, O., M. Kerekes, R.C. Sousa, I.L. Prejbeanu, U. Ebels, H. Sibuet, A. Persico, F. Ponthenier, B. Rodmacq, S. Auffret, X. Hugon, H. Achard and J.-P. Nozières

TAM-RAM Workshop, Nagoya (Japan), Apr. 9 2005

### Thermo-magnetic random access memory: A new route for low power applications

Redon, O., I.L. Prejbeanu, R.C. Sousa, M. Kerekes, B. Dieny, J.-P. Nozières and P. Freitas

Intermag Conference, Nagoya (Japan), Apr. 4-8 2005

## **Exchange-biased vortices in lithographed ferromagnetic-antiferromagnetic dots**

Sort, J., A. Hoffmann, S.H. Chung, K.S. Buchanan, G. Salazar Álvarez, M. Grimsditch, M.D. Baró, B. Dieny and J. Noguès

14<sup>th</sup> International Materials Research Congress, Cancun (Mexico), Aug. 21-25 2005

## **ORAL AND POSTER PRESENTATIONS**

### **Improved patterned media for probe-based HAMR**

Algré, E., G. Gaudin, A. Bsiesy and J.-P. Nozières

Oral: [American Physical Society March Meeting](#), Los Angeles (USA), Mar. 21-25 2005

### **Improved patterned media for probe-based heat-assisted magnetic recording**

Algré, E., G. Gaudin, A. Bsiesy and J.-P. Nozières

Poster: Intermag Conference, Nagoya (Japan), Apr. 4-8 2005

### **Tailoring size effects on the exchange bias of ferromagnetic-antiferromagnetic nanodots**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Poster: [American Physical Society March Meeting](#), Los Angeles (USA), Mar. 21-25 2005

### **Thermal activation effects on the exchange bias of ferromagnetic-antiferromagnetic nanostructures**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

### **Effets de taille finie sur les propriétés d'anisotropie magnétique d'échange**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: Colloque Louis Néel, Dourdan (France), Sep. 21-23 2005

### **Evolution of Co/Pt-covered nanolines under magnetic field using coherent soft X-ray resonant magnetic scattering**

Beutier, G., F. Livet, A. Marty, G. van der Laan, S. Stanescu, V. Chamard, V. Baltz and P. Warin

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

### **Exchange bias without antiferromagnetic layer in (Pt/Co multilayer)/Permalloy systems**

Bollero, A., V. Baltz, L.D. Buda-Prejbeanu, B. Rodmacq, J. Sort and B. Dieny

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

### **Exchange bias properties in magnetic multilayered films**

Bollero, A., V. Baltz, J. Sort, B. Rodmacq and B. Dieny

Poster: European Marie-Curie Conference, Pisa (Italy), Sep. 28-30 2005

**Exchange bias effects in [Pt/Co]-IrMn multilayers with perpendicular anisotropy**

Brück, S., J. Sort, V. Baltz, B. Rodmacq, B. Dieny, S. Surinach, J.S. Munoz, M.D. Baró and J. Noguès

Poster: 69<sup>th</sup> Meeting of the Deutschen Physikalischen Gesellschaft, Berlin (Germany), Mar. 4-9 2005

**Size effects in submicronic dots of (Co/Pt)/NiFe with competing out-of-plane and easy-plane anisotropy**

Buda-Prejbeanu, L.D., J.-C. Toussaint, B. Rodmacq and B. Dieny

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Magnetization reversal asymmetry and role of uncompensated spins in perpendicular exchange-coupled systems**

Camarero, J., J. Miguel, F. Garcia, F. Romanens, J. Vogel, S. Pizzini, N. Brookes, J. Sort, B. Dieny and J.B. Goedkoop

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Double barrier magnetic tunnel junctions with GeSbTe thermal barriers for improved thermally-assisted MRAM cells**

Cardoso, S., R. Ferreira, F. Silva, L.V. Melo, P. Freitas, R.C. Sousa, O. Redon, M. MacKenzie and J. Chapman

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Control and selection of the magnetic anisotropy of cobalt nanowires**

Darques, M., L. Piraux, A. Encinas, P. Bayle-Guillemaud, A. Popa and U. Ebels

Oral: [Intermag Conference](#), Nagoya (Japan), Apr. 4-8 2005

**Interpretation of correlation between switching current asymmetry, average switching current and GMR amplitude**

Deac, A., Y. Liu, O. Redon, M. Li, J. Wang, J.-P. Nozières and B. Dieny

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Novel dynamic modes induced by spin transfer in exchange-biased spin valves**

Deac, A., O. Redon, Y. Liu, S. Petit, M. Li, C. Baraduc, J. Wang, J.-P. Nozières and B. Dieny

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Injection of spin-polarized electrons into silicon: Towards a silicon-based spintronic device**

Duluard, C., A. Bsiesy, C. Baraduc, V. Safarov, A. Filipe and A. Francinelli

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Magnetic random access memory integrated on silicon (the MEMIS project)**

Duluard, C., A. Bsiesy, A. Filipe, A. Francinelli, H. Achard and V. Safarov

Poster: 1<sup>st</sup> International Conference on Memory Technology and Design, Giens (France), May 21-24 2005**Magnetic and electrical characterization of "Ferromagnetic/Insulator/Silicon" diodes**

Duluard, C., A. Bsiesy, V. Safarov, A. Filipe and A. Francinelli

Oral: European Materials Research Society Spring Meeting, Strasbourg (France), May 31-Jun. 3 2005

**Study of TiN morphology impact on high-k MIM capacitor's electrical properties: Roughness and work function micro analyses**

Gaillard, N., L. Pinzelli, D. Mariolle, A. Bsiesy and M. Gros-Jean

Oral: Nouveaux oxydes à forte permittivité dans l'intégration des semiconducteurs, Autrans (France), Jan. 30-Feb. 2 2005

**Magnetization processes in hard CoPt films and dots: A pinning mechanism case study by MFM and magnetometry**

Ghidini, M., G. Zangari, I.L. Prejbeanu, G. Pattanaik, J. Weston, G. Asti, C. Pernechele, M. Solzi, P. Sabon, L.D. Buda-Prejbeanu and J.-P. Nozières

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005**Magnetic tunnel junction compact device model for electrical simulations of spintronic components**

Javerliac, V., L.D. Buda-Prejbeanu, F. Bernard-Granger, J.-P. Nozières and B. Dieny

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005**Non-linear dynamic effects in micron-size Permalloy lines and their influence on HF filter applications**

Korn, T., M. Kerekes, D. Stanescu, P. Xavier and U. Ebels

Poster: [Intermag Conference](#), Nagoya (Japan), Apr. 4-8 2005**Magnetic excitation induced by lateral spin diffusion**

Lee, K.J. and B. Dieny

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005**Cell-size dependence of switching time and current density in current-induced magnetization switching**

Lee, K.J. and B. Dieny

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005**Analytical investigation of spin transfer dynamics using a perpendicular-to-plane polarizer**

Lee, K.J., O. Redon and B. Dieny

Oral: [Intermag Conference](#), Nagoya (Japan), Apr. 4-8 2005

**Relationship between CPP-GMR and current-induced switching**

Manchon, A. and B. Dieny

Poster: International Summer School on Spin Electronics, Cargese (France), May 23-Jun. 4 2005

**Interpretation of relationship between CPP-GMR and spin torque amplitude**

Manchon, A., N. Strelkov, A. Deac, A. Vedyayev and B. Dieny

Poster: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Role of uncompensated spins in perpendicular exchange-coupled systems**

Miguel, J., J. Camarero, J. Vogel, F. Garcia, F. Romanens, S. Pizzini, J. Sort, N. Brookes, B. Dieny and J.B. Goedkoop

Oral: Workshop on X-Ray Spectroscopy of Magnetic Solids, Villigen (Switzerland), Oct. 18-20 2005

**Discrete media made from pre-patterned wafers: A promising route towards ultra-high density magnetic recording**

Moritz, J., M. Asbahi, V. Baltz, J.-P. Nozières and B. Dieny

Poster: 6<sup>th</sup> International Symposium on Physics of Magnetic Materials, Singapore, Sep. 14-16 2005

**Asymmetric magnetization reversal of perpendicular exchange-biased (Pt/Co) multilayers**

Romanens, F., S. Pizzini, E. Yokaichiya, M. Bonfim, Y. Pennec, J. Camarero, J. Vogel, J. Sort, F. Garcia, B. Rodmacq and B. Dieny

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Exchange bias in ferromagnetic-antiferromagnetic nanostructures**

Sort, J., V. Baltz, A. Hoffmann, S.H. Chung, K.S. Buchanan, M. Grimsditch, S. Landis, B. Rodmacq, B. Dieny, S. Surinach, J. Noguès and M.D. Baró

Oral: XXX Reunion Bienal de la Real Sociedad Espanola de Fisica, Ourense (Spain), Sep. 12-16 2005

**Exchange-biased vortices**

Sort, J., A. Hoffmann, S.H. Chung, K.S. Buchanan, V. Novosad, M. Grimsditch, M.D. Baró, B. Dieny and J. Noguès

Poster: 2<sup>nd</sup> Nanospain Workshop, Barcelona (Spain), Mar. 14-17 2005

**Magnetization reversal in ferromagnetic-antiferromagnetic dots: Exchange-biased vortices**

Sort, J., A. Hoffmann, S.H. Chung, K.S. Buchanan, G. Salazar Álvarez, M. Grimsditch, M.D. Baró, B. Dieny and J. Noguès

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Exchange-biased vortices in lithographed ferromagnetic-antiferromagnetic dots**

Sort, J., J. Noguès, M.D. Baró, S.H. Chung, K.S. Buchanan, M. Grimsditch, V. Novosad, A. Hoffmann and B. Dieny

Oral: American Physical Society March Meeting, Los Angeles (USA), Mar. 21-25 2005

**Crossover in heating regimes of thermally-assisted magnetic memories**

Sousa, R.C., M. Kerekes, I.L. Prejbeanu, O. Redon, B. Dieny, J.-P. Nozières and P. Freitas

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Pulsed metal-organic chemical vapor deposition of iron oxides and bismuth-iron oxides**

Thery, J., T. Baron, C. Dubourdieu, C. Ternon, B. Pelissier, H. Roussel, S. Coindeau and I.L. Prejbeanu

Oral: 207<sup>th</sup> Electrochemical Society Meeting, Quebec (Canada), May 15-20 2005

**Engineering of spin filtering in single and double epitaxial magnetic tunnel junctions**

Tiusan, C., M. Sicot, J. Faure-Vincent, F. Greullet, M. Hehn, C. Bellouard, F. Montaigne, S. Andrieu and A. Schuhl

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Vortex state in high aspect ratio cobalt nanowires**

Vila, L., G. Faini, J.-M. George, U. Ebels and L. Piraux

Oral: 50<sup>th</sup> International Conference on Magnetism and Magnetic Materials, San Jose (USA), Oct. 30-Nov. 3 2005

**Structure en domaines et leur dynamique dans les couches couplées par interaction dipolaire**

Wiebel, S., J.-P. Jamet, N. Vernier, A. Mougin, J. Ferré, V. Baltz, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, Dourdan (France), Sep. 21-23 2005

# 2004

## INVITED PRESENTATIONS

### **Evidence of spin transfer effects in current-perpendicular-to-plane magnetoresistive heads**

Deac, A., K.J. Lee, O. Redon, J.-P. Nozières, B. Dieny, Y. Liu, M. Li and P. Wang  
Asia Pacific Data Storage Conference, Taiwan (China), Sep. 27-30 2004

### **Spin transfer effect in soft current-perpendicular-to-plane spin valves for magnetoresistive heads**

Dieny, B., A. Deac, K.J. Lee, Y. Liu, M. Li, J.W. Chang, J. Wang, O. Redon and J.-P. Nozières  
Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

### **Current-induced switching in low resistance tunnel junction with magnetic and non-magnetic electrodes: Tunneling and pinhole-dominated conduction regimes**

Freitas, P., K. Zhang, Y. Liu, A. Deac, R.C. Sousa, O. Redon, B. Dieny, J.-P. Nozières, J. Ventura and J. Sousa  
9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

### **Magnetic switching and excitations due to spin-polarized current in NiFe and CoFe-based nanopillars**

Lee, K.J., A. Deac, Y. Liu, M. Li, J.W. Chang, S. Liao, K. Ju, O. Redon, B. Dieny and J.-P. Nozières  
9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

### **Spin transfer effects in spin valve pillars for current-perpendicular-to-plane magnetoresistive heads**

Lee, K.J., Y. Liu, A. Deac, M. Li, J.W. Chang, S. Liao, K. Ju, O. Redon, B. Dieny and J.-P. Nozières  
9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

### **Patterned media from pre-structured wafers: A promising route towards ultra-high density magnetic recording**

Moritz, J., B. Dieny, J.-P. Nozières, R. van de Veerdonk, T.M. Crawford and D. Weller  
9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

### **Exchange bias in nanoparticles**

Noguès, J., V. Skumryev, S. Stoyanov, Y. Zhang, G. Hadjipanayis, D. Givord, V. Langlais, J. Sort, S. Doppiu, C. Laurent, B. Dieny, J.S. Munoz, S. Surinach and M.D. Baró

XIII International Materials Research Congress, Cancun (Mexico), Aug. 22-26 2004

### **Out-of-plane exchange bias**

Sort, J., F. Garcia, B. Rodmacq, S. Auffret and B. Dieny  
Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

## **High density applications of the exchange bias phenomena in thin films and patterned nanostructures**

Sort, J., V. Baltz, B. Rodmacq and B. Dieny

International Workshop on Exchange Bias in Magnetic Nanostructures, Anglet (France), Sep. 16-18 2004

## **Exchange bias effects in systems with perpendicular-to-plane magnetic anisotropy**

Sort, J., F. Garcia, V. Baltz, S. Auffret, B. Rodmacq, M. Fraune, G. Güntherodt, M.D. Baró, J. Noguès and B. Dieny

49<sup>th</sup> Conference on Magnetism and Magnetic Materials, Jacksonville (USA), Nov. 7-11 2004

## **ORAL AND POSTER PRESENTATIONS**

### **Enregistrement thermomagnétique sous pointe**

Algré, E., G. Gaudin and J.-P. Nozières

Oral: Journées de la Matière Condensée, Nancy (France), Aug. 30-Sep. 3 2004

### **Ferromagnetic-antiferromagnetic exchange-biased systems deposited onto sub-100nm pre-patterned dots**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: International Symposium on Trends in Nanotechnology, Segovia (Spain), Sep. 13-17 2004

### **Exchange bias in ferromagnetic-antiferromagnetic bilayers sputtered on pre-patterned 90nm dots**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Poster: Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

### **Stockage magnétique multiniveaux sur media continus et discrets à anisotropie perpendiculaire**

Baltz, V., B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

### **Tailoring size effects on the exchange bias (enhancement or reduction) of sub-100nm ferromagnetic-antiferromagnetic nanostructures**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: Journées Nanosciences Nanotechnologie en Rhône-Alpes, Grenoble (France), Nov. 18-19 2004

### **Perpendicular multilevel magnetic media sputtered onto continuous and sub-100nm pre-patterned silicon dots**

Baltz, V., S. Landis, B. Rodmacq and B. Dieny

Oral: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Perpendicular pre-patterned multilevel magnetic media**

Baltz, V., B. Rodmacq, I. Trindade, B. Dieny, S. Landis, S. Wiebel, J.-P. Jamet, A. Mougin and J. Ferré

Oral: 49<sup>th</sup> Conference on Magnetism and Magnetic Materials, Jacksonville (USA), Nov. 7-11 2004

**Exchange bias in ferromagnetic-antiferromagnetic bilayers sputtered onto pre-patterned 90nm square dots**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Ferromagnetic-antiferromagnetic exchange-biased bilayers sputtered on pre-patterned sub-100nm dots**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Oral: 49<sup>th</sup> Conference on Magnetism and Magnetic Materials, Jacksonville (USA), Nov. 7-11 2004

**Size effects on exchange bias in sub-100nm ferromagnetic-antiferromagnetic dots deposited onto pre-patterned substrates**

Baltz, V., J. Sort, S. Landis, B. Rodmacq and B. Dieny

Poster: International Workshop on Exchange Bias in Magnetic Nanostructures, Anglet (France), Sep. 16-18 2004

**Réseaux de plots ferromagnétique/antiferromagnétique sub-100nm à anisotropie planaire**

Baltz, V. J. Sort, B. Rodmacq and B. Dieny

Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Magnetization reversal study of perpendicular exchange-coupled (Pt/Co)/FeMn films**

Camarero, J., J. Miguel, F. Garcia, J. Vogel, S. Pizzini, F. Romanens, J. Sort, N. Brookes, B. Dieny and J.B. Goedkoop

Oral: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Study of the magnetization reversal of perpendicular exchange-coupled (Pt/Co)<sub>n</sub>/FeMn films using soft X-Ray scattering**

Camarero, J., J. Miguel, F. Garcia, J. Vogel, S. Pizzini, F. Romanens, J. Sort, N. Brookes, B. Dieny and J.B. Goedkoop

Poster: International Workshop on Exchange Bias in Magnetic Nanostructures, Anglet (France), Sep. 16-18 2004

**Anisotropy-dependent asymmetric reversal in exchange-biased systems**

Camarero, J., J. Sort, A. Hoffmann, J.M. García Martín, B. Dieny, R. Miranda and J. Noguès

Oral: International Workshop on Exchange Bias in Magnetic Nanostructures, Anglet (France), Sep. 16-18 2004

**Precessional reversal of soft magnetic continuous layers**

Da Cas Viegas, A., M. Kerekes, D. Stanescu, U. Ebels, P. Xavier, G. Suran, L.S. Dornelles and R.L. Sommer

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Frequency domain studies of CoZr continuous thin films and FeNi wires using coplanar transmission lines**

Da Cas Viegas, A., M. Kerekes, D. Stanescu, P. Xavier, G. Suran and U. Ebels

Poster: 5<sup>th</sup> International Symposium on Metallic Multilayers, Boulder (USA), Jun. 8-11 2004

**Spin torque effect in spin valve pillars for CPP-GMR heads**

Deac, A., K.J. Lee, Y. Liu, O. Redon, P. Wang, B. Dieny and J.-P. Nozières

Poster: Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

**Current-induced switching in magnetic memory devices**

Deac, A., K.J. Lee, J.W. Chang, R.C. Sousa, O. Redon, S. Liao, C.P. Chen, B. Dieny and J.-P. Nozières

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Spin transfer in Cu and Ag laminated spin valves for CPP-MR heads**

Deac, A., K.J. Lee, Y. Liu, M. Li, J.W. Chang, S. Liao, K. Ju, B. Dieny, O. Redon and J.-P. Nozières

Poster: 5<sup>th</sup> International Symposium on Metallic Multilayers, Boulder (USA), Jun. 8-11 2004

**Spin transfer in spin valves for CPP-GMR heads**

Deac, A., K.J. Lee, Y. Liu, O. Redon, M. Li, J. Wang, J.-P. Nozières and B. Dieny

Poster: Journées de la Matière Condensée, Nancy (France), Aug. 30-Sep. 3 2004

**Electromigration réversible dans des barrières tunnels à forte topologie**

Deac, A., Z. Zhang, R.C. Sousa, O. Redon, P. Freitas, B. Dieny and J.-P. Nozières

Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Controlled electro-migration in non-uniform insulating barriers of low RA magnetic tunnel junctions**

Deac, A., X. Zhang, R.C. Sousa, Y. Liu, O. Redon, P. Freitas, B. Dieny and J.-P. Nozières

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Current-driven resistance change in low RA magnetic tunnel junctions with ultra-thin Al-Ox barriers**

Deac, A., Z. Zhang, O. Redon, Y. Liu, P. Freitas, B. Dieny and J.-P. Nozières

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**L'électronique de spin: Des principes de base aux applications**

Dieny, B.

Oral: Journées Nanosciences Nanotechnologie en Rhône-Alpes, Grenoble (France), Nov. 18-19 2004

**Spin injection into silicon: A new concept of a magnetic memory integrated on silicon**

Duluard, C., A. Bsiesy, A. Filipe, C. Dieppedale and V. Safarov

Oral: 3<sup>rd</sup> International Conference on Physics and Application of Spin-related Phenomena in Semiconductors, Santa Barbara (USA), Jul. 21-23 2004

**AMR read heads for zero-guard band multitrack recording**

Firastrau, I., L.D. Buda-Prejbeanu, J.-C. Toussaint and J.-P. Nozières

Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Couplage macro-micro pour la modélisation numérique des têtes de lecture multi-pistes**

Firastrau, I., L.D. Buda-Prejbeanu, J.-C. Toussaint and J.-P. Nozières

Oral: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Magnetization reversal in Ni<sub>80</sub>Fe<sub>20</sub>/Co<sub>80</sub>Pt<sub>20</sub> bilayers**

Ghidini, M., M. Solzi, G. Asti, G. Zangari, S. Auffret, J.-P. Nozières and G. Calestani

Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Dynamic heating in sub-micron size magnetic tunnel junctions**

Kerekes, M., I.L. Prejbeanu, R.C. Sousa, O. Redon, U. Ebels, P. Xavier, J.-P. Nozières and P. Freitas

Oral: Journées Nanosciences Nanotechnologie en Rhône-Alpes, Grenoble (France), Nov. 18-19 2004

**Magnetic excitations in wires and continuous thin films studies by inductive pump-probe techniques in the frequency and time domain**

Kerekes, M., A. da Cas Viegas, D. Stanescu, U. Ebels, P. Xavier and T. Fournier

Poster: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Precessional and relaxational reversal studies in continuous soft layers**

Kerekes, M., A. da Cas Viegas, D. Stanescu, P. Xavier and U. Ebels

Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Precessional reversal studies in continuous soft layers**

Kerekes, M., A. da Cas Viegas, D. Stanescu, P. Xavier, U. Ebels, L.S. Dormelles and R.L. Sommer

Oral: 5<sup>th</sup> International Symposium on Metallic Multilayers, Boulder (USA), Jun. 8-11 2004

**Frequency domain studies of CoZr continuous thin films and FeNi wires using coplanar transmission lines**

Kerekes, M., A. da Cas Viegas, D. Stanescu, P. Xavier, G. Suran and U. Ebels

Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Dynamic heating in sub-micron size magnetic tunnel junctions with exchange-biased storage layer**

Kerekes, M., I.L. Prejbeanu, R.C. Sousa, O. Redon, U. Ebels, P. Xavier, J.-P. Nozières, K. Ounadjela, P. Freitas and C. Baraduc  
Oral: 49<sup>th</sup> Conference on Magnetism and Magnetic Materials, Jacksonville (USA), Nov. 7-11 2004

**Dynamic heating in sub-micron size magnetic tunnel junctions with exchange-biased storage layer**

Kerekes, M., R.C. Sousa, I.L. Prejbeanu, O. Redon, P. Xavier, J.-P. Nozières, B. Dieny and U. Ebels  
Poster: Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

**Domain wall propagation in continuous thin films initiated by precessional reversal**

Kerekes, M., D. Stanescu, A. da Cas Viegas, O. Redon, P. Xavier, J.-P. Nozières, B. Dieny and U. Ebels  
Poster: Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

**Wide-bandwidth inductive experiments on the dynamics of ferromagnetic thin films and microstructures**

Korn, T., M. Kerekes, A. da Cas Viegas, P. Xavier and U. Ebels  
Poster: Journées Nanosciences Nanotechnologie en Rhône-Alpes, Grenoble (France), Nov. 18-19 2004

**Excitations of incoherent spin waves due to spin transfer torque**

Lee, K.J., A. Deac, J.-P. Nozières and B. Dieny  
Poster: Ultrabias Summer School, Biarritz (France), Sep. 12-16 2004

**Micromagnetic simulation of magnetic excitations due to spin transfer torque**

Lee, K.J., A. Deac, O. Redon, J.-P. Nozières and B. Dieny  
Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Micromagnetic simulation of current-induced precessional switching**

Lee, K.J., O. Redon, A. Vedyayev, B. Dieny and J.-P. Nozières  
Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Enhanced spin-flip scattering in the current-perpendicular-to-plane transport through laminated spin valves**

Li, M., S. Liao, J.W. Chang, K. Ju, F. Ciorcas-Delille, N. Strelkov, E. Favre-Nicolin and B. Dieny  
Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Spin transfer effects in current-perpendicular-to-plane magnetoresistive spin valve heads**

Liu, Y., M. Li, S. Liao, A. Zheng, J.W. Chang, K. Ju and B. Dieny  
Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Ecriture assistée thermiquement des mémoires MRAM**

Prejbeanu, I.L., V. Kula, K. Ounadjela, R.C. Sousa and O. Redon  
Oral: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Thermally-assisted writing scheme for low power MRAM**

Prejbeanu, I.L., V. Kula, K. Ounadjela, R.C. Sousa and O. Redon  
Oral: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Thermally-assisted switching in exchange-biased storage layer magnetic tunnel junctions**

Prejbeanu, I.L., W. Kula, K. Ounadjela, R.C. Sousa, O. Redon, B. Dieny and J.-P. Nozières  
Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**MRAM: From state of the art to advanced generations**

Prejbeanu, I.L., R.C. Sousa, O. Redon, B. Dieny and J.-P. Nozières  
Oral: Nanoelectronics Materials Conference, Grenoble (France), Apr. 3 2004

**Domain wall magnetoresistance in epitaxial Co wires**

Prejbeanu, I.L., M. Viret, L.D. Buda-Prejbeanu, U. Ebels and K. Ounadjela  
Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Magnetization dynamics of exchange-biased (Co/Pt) multilayers studied by Kerr magnetometry**

Romanens, F., Y. Pennec, J. Sort, J. Vogel, B. Dieny and S. Pizzini  
Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Couplage d'échange et retournement d'aimantation dans (Pt/Co)<sub>5</sub>/Pt/FeMn**

Romanens, F., Y. Pennec, J. Sort, J. Camarero, J. Vogel, B. Dieny and S. Pizzini  
Poster: Colloque Louis Néel, Autrans (France), Mar. 17-19 2004

**Magnetization dynamics of (Pt/Co)/Pt/FeMn multilayers studied by Kerr magnetometry and time-resolved Kerr microscopy**

Romanens, F., J. Sort, J. Camarero, E. Yokaichiya, Y. Pennec, J. Vogel, B. Dieny and S. Pizzini  
Oral: International Workshop on Exchange Bias in Magnetic Nanostructures, Anglet (France), Sep. 16-18 2004

**Comparative study of exchange bias properties of ferromagnetic-antiferromagnetic dots of different shapes prepared by different nanostructuring techniques**

Sort, J., V. Baltz, H. Glaczynska, U. Ebels, S. Landis, B. Rodmacq, M. Giersig, J. Rybczynski and B. Dieny  
Poster: 5<sup>th</sup> International Symposium on Metallic Multilayers, Boulder (USA), Jun. 8-11 2004

**Exchange bias effects in submicron dots prepared by nanosphere lithography**

Sort, J., H. Glaczynska, U. Ebels, M. Giersig, J. Rybczynski and B. Dieny  
Poster: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Thermal stability of pinned synthetic ferrimagnets with perpendicular magnetic anisotropy**

Sort, J., B. Rodmacq, F. Garcia, S. Auffret and B. Dieny

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Tunneling hotspots and heating in magnetic tunnel junctions**

Sousa, R.C., I.L. Prejbeanu, D. Stanescu, B. Rodmacq, O. Redon, B. Dieny, J. Wang and P. Freitas

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Magnetoresistance and spin transfer in magnetic tunnel junctions**

Vedyayev, A., N. Ryzhanova, N. Strelkov and B. Dieny

Oral: 9<sup>th</sup> Joint MMM-Intermag Conference, Anaheim (USA), Jan. 5-9 2004

**Current perpendicular to plane giant magnetoresistance in laminated nanostructures**

Vedyayev, A., I. Zhukov and B. Dieny

Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

**Resonance effects in magnetic nanostructures**

Zhuravlev, M.Ye., E.Y. Tsymbal, A. Vedyayev, N. Ryzhanova, F. Kanjouri and B. Dieny

Poster: Joint European Magnetic Symposia, Dresden (Germany), Sep. 5-10 2004

# 2003

## INVITED PRESENTATIONS

### **Introduction to numerical micromagnetism: Application to mesoscopic magnetic systems**

Buda-Prejbeanu, L.D.

European School on Magnetism, Brasov (Romania), Sep. 1-10 2003

### **An overview of Solid State Memories: MRAM, PCRAM, FeRAM**

Dieny, B.

Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

### **Functional materials for spin electronics**

Dieny, B.

International Symposium on Semiconductor Oxides for UV Optoelectronics, Surface Acoustic and Spintronics, Autrans (France), Sep. 5-7 2003

### **Spin electronics: Basic phenomena, materials and devices**

Dieny, B.

International Summer School on Advanced Microelectronics "Towards Nanoelectronics" MIGAS 2003, Autrans (France), Jun. 14-20 2003

### **Magnetic switching and excitations due to spin-polarized current in NiFe- and CoFe-based nanopillars**

Lee, K.J., A. Deac, Y. Liu, J.W. Chang, S. Liao, K. Ju, O. Redon, B. Dieny and J.-P. Nozières

International Symposium on Magnetics Materials and Applications, Daejon (South Korea), Dec. 3-6 2003

### **Ultra-high density magnetic recording using patterned media from pre-structured wafers**

Moritz, J., V. Baltz, E. Algré, G. Gaudin, J.-P. Nozières, B. Rodmacq and B. Dieny  
Materials Research Society Fall Meeting, Boston (USA), Nov. 30-Dec. 5 2003

### **Magnetoresistance and spin transfer in magnetic tunnel junctions**

Vedyayev, A., N. Ryzhanova, B. Dieny and N. Strelkov

International Symposium on Magnetic Materials and Applications, Daejon (South Korea), Dec. 3-6 2003

## ORAL AND POSTER PRESENTATIONS

### **Resonant quantum tunneling of the magnetization beyond the giant spin approximation**

Anfuso, L., D. Rovai, R. Sessoli, G. Gaudin and J. Villain

Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Asymmetric magnetization reversal dynamics in perpendicular exchange-coupled (Pt/Co)<sub>n</sub>/FeMn systems**

Camarero, J., Y. Pennec, F. Garcia, J. Sort, F. Romanens, S. Pizzini, J. Vogel and B. Dieny

Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Precessional reversal dynamics in a spin valve element**

Da Cas Viegas, A., D. Stanescu, M. Kerekes, U. Ebels, P. Xavier, T. Fournier, B. Dieny and K. Ounadjela

Poster: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Direct current switching in sub-micron size magnetic memory devices**

Deac, A., K.J. Lee, Y. Liu, J.W. Chang, R.C. Sousa, O. Redon, S. Liao, P. Freitas, B. Dieny and J.-P. Nozières

Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Current-induced transitions in low RA magnetic tunnel junctions**

Deac, A., Y. Liu, R.C. Sousa, O. Redon, P. Freitas, B. Dieny and J.-P. Nozières

Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Current-induced switching in magnetic memory devices**

Deac, A., Z. Zhang, R.C. Sousa, O. Redon, P. Freitas, B. Dieny and J.-P. Nozières

Oral: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Magnetic memory integrated on silicon**

Duluard, C., A. Bsiesy and V. Safarov

Poster: Journées du Groupe de Recherche "Electronique de Spin associant Magnétisme et Semiconducteurs", Nice (France), 2003

**Boundary element method and micromagnetism coupling for magneto-resistive heads modeling**

Firastrau, I., L.D. Buda-Prejbeanu, J.-C. Toussaint and J.-P. Nozières

Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**AMR read heads for zero-guardband multitrack recording**

Firastrau, I., L.D. Buda-Prejbeanu, J.-C. Toussaint and J.-P. Nozières

Oral: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Magnetic characterisation of Ni triangular elements prepared by nanosphere lithography**

Glaczynska, H., U. Ebels, J. Rybczynski, W. Kandulski and M. Giersig

Oral: 3<sup>rd</sup> International Symposium on Scanning Probe Spectroscopy and Related Methods, Poznan (Poland), Jul. 16-19 2003

**Magnetic excitations in wires and continuous thin films studied by inductive pump-probe techniques in the frequency and time domain**

Kerekes, M., D. Stanescu, A. da Cas Viegas, U. Ebels, P. Xavier and T. Fournier

Poster: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Realization and characterization of magnetic media deposited on side-edge of patterned silicon dot arrays**

Landis, S., P. Bayle-Guillemaud, B. Rodmacq, V. Baltz and B. Dieny

Oral: International Microprocesses and Nanotechnology Conference, Tokyo (Japan), Oct. 29-31 2003

**Fabrication of submicron magnetic line arrays for magnetic force microscopy tip calibration**

Landis, S., B. Rodmacq and B. Dieny

Poster: 29<sup>th</sup> International Conference on Micro- and Nano-Engineering, Cambridge (United Kingdom), Sep. 22-25 2003

**Exchange coupling in Ni/NiO nano-composites obtained by reactive milling**

Langlais, V., S. Doppiu, J. Sort, B. Dieny, S. Surinach, J.S. Munoz, M.D. Baró and J. Noguès

Poster: International Symposium on Trends in Nanotechnology, Salamanca (Spain), Sep. 15-19 2003

**Estimation of the Co nanoparticles size by magnetic measurements in Co/SiO<sub>2</sub> discontinuous multilayers**

Micha, J.-S., B. Dieny and J.-R. Regnard

Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Patterned media from pre-structured wafers: A promising route towards ultra-high density magnetic recording**

Moritz, J., V. Baltz, E. Algré, G. Gaudin, S. Landis, R.J.M. van de Veerdonk, T.M. Crawford, D. Weller, J.-P. Nozières, B. Rodmacq and B. Dieny

Oral: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

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Poster: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Nanometric heterostructures of iron oxides grown by molecular beam epitaxy: Structural and magnetic properties**

Moussy, J.-B., S. Gota, M.-J. Guittet, A. Bataille, M. Gautier-Soyer, P. Warin, P. Bayle-Guillemaud, M. Viret, F. Ott, C. Fermon, F. Ciorcas-Delille, B. Dieny, B. Raquet and E. Favre-Nicolin

Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Probe recording in MRAM elements using magnetic tips**

Murillo, R., D. Edmundson, M.H. Siekman, B. Rodmacq, C.D. Wright and J.C. Lodder  
Poster: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Large enhancement of perpendicular exchange bias by introduction of an ultra-thin non-magnetic layer between the ferromagnetic and antiferromagnetic layers**

Sort, J., F. Garcia, B. Rodmacq, S. Auffret and B. Dieny  
Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Enhancement of exchange bias through a non-magnetic spacer**

Sort, J., F. Garcia, B. Rodmacq, S. Auffret and B. Dieny  
Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Exchange bias effects in nanosize dots prepared by nanosphere lithography**

Sort, J., H. Glaczynska, U. Ebels, M. Giersig, J. Rybczynski and B. Dieny  
Poster: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Exchange bias effects in Fe nanoparticles embedded in an antiferromagnetic Cr<sub>2</sub>O<sub>3</sub> matrix**

Sort, J., V. Langlais, S. Doppiu, B. Dieny, S. Surinach, J.S. Munoz, M.D. Baró, C. Laurent and J. Noguès  
Poster: International Symposium on Trends in Nanotechnology, Salamanca (Spain), Sep. 15-19 2003

**Pinned synthetic ferrimagnets with perpendicular anisotropy and tunable exchange bias: Promising structures to enhance performance of spin valves and tunnel junctions with perpendicular anisotropy**

Sort, J., B. Rodmacq, S. Auffret and B. Dieny  
Poster: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Bias current heating in spin-dependent tunnel junctions**

Sousa, R.C., D. Stanescu, I.L. Prejbeanu, O. Redon, B. Rodmacq, B. Dieny, J. Wang and P. Freitas  
Oral: Innovative Mass Storage Technologies, Grenoble (France), Sep. 23-24 2003

**Magnetization reversal dynamics in NiO/Co/Cu/NiFe spin valve element**

Stanescu, D., A. da Cas Viegas, M. Kerekes, P. Xavier, B. Dieny and U. Ebels  
Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Magnetization dynamics in spin valve micron-size elements**

Stanescu, D., A. da Cas Viegas, M. Kerekes, P. Xavier, K. Ounadjela and U. Ebels  
Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Variations of the induced anisotropy in a-CoZr(M) (M= Mo, Ta) films as a function of thickness and deposition parameters**

Suran, G., H. Ouahmane, G. Gortais and J.-P. Nozières  
Oral: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

**Spatial distribution of current in magnetic tunnel junctions in the presence of impurities in the barrier**

Vedyaev, A., F. Kanjouri, N. Strelkov and B. Dieny

Poster: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Giant magnetoresistance in magnetic bi-multilayers**

Vedyaev, A., I. Zhukov and B. Dieny

Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Spin-dependent transport through a magnetic nanoconstriction**

Vedyaev, A., M.Ye. Zhuravlev, N. Strelkov and B. Dieny

Oral: International Colloquium on Magnetic Films and Surfaces, Madrid (Spain), Jul. 22-25 2003

**Vortices nucleation and annihilation in magnetic nanowires**

Vila, L., L. Piraux, J.-M. George, G. Faini, A. Popa and U. Ebels

Poster: International Conference on Magnetism, Rome (Italy), Jul. 27-Aug. 1 2003

# 2002

## INVITED PRESENTATIONS

### **Ultra-high density magnetic recording: Towards 1 terabit/inch<sup>2</sup>**

Dieny, B.

Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 20-24 2002

### **Exchange bias with perpendicular anisotropy in (Pt/Co)n/FeMn multilayers**

Garcia, F., J. Moritz, F. Ernult, S. Auffret, B. Rodmacq, B. Dieny, J. Camarero, Y. Pennec, S. Pizzini and J. Vogel

Intermag Conference, Amsterdam (The Netherlands), Apr. 28-May 2 2002

### **Patterned media made from pre-etched wafers: A promising route towards ultra-high density magnetic recording**

Moritz, J., S. Landis, J.-C. Toussaint, P. Bayle-Guillemaud, B. Rodmacq, G. Casali, A. Lebib, Y. Chen, J.-P. Nozières and B. Dieny

1<sup>st</sup> North American Perpendicular Magnetic Recording Conference, Coral Gables (USA), Jan. 7-9 2002

## ORAL AND POSTER PRESENTATIONS

### **Assembly of vertical nanomagnets obtained by oblique deposition of magnetic materials on the sidewalls of pre-structured silicon dots**

Baltz, V., J. Moritz, S. Landis, B. Rodmacq, S. Auffret, C. Beigné, I.L. Prejbeanu and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (Florida), Nov. 11-15 2002

### **90°-coupling in NiFe/NiO/Co trilayers**

Camarero, J., Y. Pennec, J. Vogel, S. Pizzini, F. Fettar, F. Ernult and B. Dieny

Oral: Intermag Conference, Amsterdam (The Netherlands), Apr. 28-May 2 2002

### **Effects of swift heavy ion bombardment on magnetic tunnel junction functional properties**

Conraux, Y., J.-P. Nozières, V. da Costa, M. Toulemonde and K. Ounadjela

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

### **Magnetization dynamics in magnetic microstructures**

Da Cas Viegas, A., D. Stanescu, M. Kerekes, P. Xavier, K. Ounadjela, B. Dieny and U. Ebels

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Influence of the insertion of a layer of Au islands within the NiO layer on the exchange bias of Co/NiO bilayers**

Ernult, F., F. Lançon, L. Billard and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Magnetic simulation of ferromagnetic/antiferromagnetic/ferromagnetic trilayers**

Ernult, F., B. Dieny, F. Lançon, L. Billard and J.-R. Regnard

Oral: 17<sup>th</sup> International Colloquium on Magnetic Films and Surfaces, Kyoto (Japan), Mar. 5-8 2002

**Magnetization and magneto-transport properties in 90°-exchange-coupled FeNi/NiO/Co trilayers**

Fettar, F., F. Garcia, B. Dieny, Y. Pennec, J. Camarero, J. Vogel and S. Pizzini

Poster: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Crossover from in-plane to perpendicular anisotropy in (Pt/Co)<sub>n</sub>/FeMn multilayers versus n: Evidence for a strong easy-plane anisotropy at Co/FeMn interface**

Garcia, F., B. Rodmacq, S. Auffret and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Spin valves with perpendicular magnetic anisotropy based on (Co/Pt) multilayers**

Garcia, F., F. Fettar, S. Auffret, B. Rodmacq and B. Dieny

Poster: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Exchange-biased spin valves with perpendicular magnetic anisotropy based on (Co/Pt) multilayers**

Garcia, F., F. Fettar, S. Auffret, B. Rodmacq and B. Dieny

Poster: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Quantitative interpretation of Current-Perpendicular-to-Plane giant magnetoresistance in laminated spin valves**

Li, M., S. Liao, K. Ju, R. Sabiaa, K. Zhang, J. Chang, N. Strelkhov and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Magnetization reversal dynamics in arrays of submicronic magnetic dots with perpendicular anisotropy**

Moritz, J., Y. Pennec, J. Camarero, J. Vogel, S. Pizzini, B. Dieny and J.-P. Nozières

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Theory of orange peel coupling mechanism with perpendicular anisotropy:  
Application to exchange-biased (Co/Pt) based spin valves**

Moritz, J., J.-C. Toussaint, F. Garcia, B. Dieny and J.-P. Nozières

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**In-plane perpendicular coupling in NiFe/NiO/Co trilayers**

Pennec, Y., J. Camarero, F. Ernult, F. Fettar, J. Vogel, M. Bonfim, S. Pizzini, F. Garcia, A. Tagliaferri, N. Brookes and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Crossovers from in-plane to perpendicular anisotropy in magnetic tunnel junctions as a function of the barrier degree of oxidation**

Rodmacq, B., S. Auffret, B. Dieny, S. Monso and P. Boyer

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Generalization of the current-perpendicular-to-plane giant magnetoresistance including spin-flip to any multilayered magnetic structures**

Strelkov, N., A. Vedyayev and B. Dieny

Oral: 47<sup>th</sup> Conference on Magnetism and Magnetic Materials, Tampa (USA), Nov. 11-15 2002

**Injection of spin-polarized current into a semiconductor from a ferromagnet**

Vedyayev, A., N. Rhyzhanova, B. Dieny, I. Zhukov, M.Ye. Zhuravlev and H. Lutz

Oral: Moscow International Symposium on Magnetism, Moscow (Russia), Jun. 20-24 2002

**Dependence of coercivity on maximum applied field in dynamic magnetization reversal of Co/NiO bilayers**

Vogel, J., J. Camarero, Y. Pennec, M. Bonfim, S. Pizzini, M. Cartier, F. Ernult, F. Fettar and B. Dieny

Poster: Intermag Conference, Amsterdam (The Netherlands), Apr. 28-May 2 2002