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**PUBLICATIONS DANS LES REVUES A COMITE DE LECTURE**

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**2004****Study of the magnetization reversal in exchange coupled GdFe/TbFe by X-ray magnetic circular dichroism (XMCD)**

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**Epitaxial growth of Europium on (110)Nb and (0001)Y**

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C de la Fuente, J I Arnaudas, L Benito, M Ciria, A del Moral, C Dufour, K. Dumesnil,  
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**Chirality reversal of the interface domain wall in a hard/soft magnetic bilayer**

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**Tunnel barrier fabrication on Si and its impact on a spin transistor**

C.L. Dennis, C. Tiusan, R.A. Ferreira, J.F. Gregg, G.J. Ensell, S.M. Thompson and P.P. Freitas  
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T. Hauet, J.A. Borchers, Ph. Mangin Y. Henry, S. Mangin  
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**Current-induced magnetization reversal in nanopillars with perpendicular anisotropy**

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S. Soriano, C. Dufour, K. Dumesnil et A. Stunault,

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**Low temperature growth of sputtered AlN films for layered structure SAW devices**

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D. Ravelosona, S. Mangin, J. A. Katine, Eric E.E Fullerton, B. D. Terris  
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M. Sicot, S. Andrieu, P. Turban, Y. Fagot-Revurat, H. Cercellier, A. Tagliaferri, C. De Nadai, N. Brookes, F. Bertran, F. Fortuna,  
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Journal of Applied Physics, **95** (11), 6936, (2004).

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M. B. Assouar, O. Elmazria, M. El Hakiki, P. Alnot et C. Tiusan  
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**Magnetic field sensor with low temperature drift using ferro/anti-ferromagnetic bilayer**

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G. Rodary, M. Hehn, T. Dimopoulos, D. Lacour, J. Bangert, H. Jaffrès, F. Montaigne, F. Nguyen van Dau, F. Petroff, A. Schuhl, J. Wecker,  
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**Current induced domain wall states in CPP nanopillars with perpendicular anisotropy**  
D. Ravelosona, S. Mangin, Y. Henry, Y. Lemaho, J. Katine, B. Terris  
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**COMMUNICATIONS ORALES A DES CONGRES ET SYMPOSIUM**

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**CONFERENCE INVITE**

**2004**

**Magnetic configuration at the interface of exchange coupled bilayers**  
S. Mangin  
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ESRF-Grenoble (2004)

**Parabolic band model for magnetic tunnel junctions and related devices**  
F. Montaigne, M. Hehn, A. Schuhl  
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**Magnetic Domain Walls and Interface Spin Structures in Exchange-biased  
GdFe/TbFe Bilayers**  
S. Mangin, T. Hauet, Y. Henry, F. Montaigne  
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**Spin filtering effects in monocrystalline Fe/MgO/Fe magnetic tunnel junctions**  
C. Tiusan, J. Faure-Vincent, M. Sicot, M. Hehn, C. Bellouard, F. Montaigne, S. Andrieu,  
A. Schuhl,  
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**Relaxation en bord d'îlots 2D pendant la croissance épitaxiale**  
S. Andrieu, P. Muller, P. Turban, L. Lapena,  
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**Current-induced magnetization reversal in nanopillars with perpendicular anisotropy**  
S. Mangin, D. Ravelosona, J. A. Katine and Eric. E. Fullerton  
*Intermag Conference, San Diego- USA (2006)*

**Current-induced magnetization reversal and domain formation in nanopillars with perpendicular anisotropy**

S. Mangin, D. Ravelosona, Y. Lemaho, Y. Henry, M. Carey, J. Katine, S. Maat, B. Terris, E. Fullerton

*California Symposium on Nanomagnetism, University of California, Irvine USA (2006)*

**Domain wall creation in nanostructures driven by a spin-polarized current**

D. Ravelosona, S. Mangin, Y. Lemaho, J. Katine, E.E. Fullerton, and B. Terris

*19<sup>th</sup> International Colloquium on Magnetic Films and Surface" Sendai, Japan (2006)*

**Current-induced magnetization reversal in nanopillars with perpendicular anisotropy**

S. Mangin, D. Ravelosona, J. A. Katine, M.J. Carey, Y. Henry, B. D. Terris and Eric E. Fullerton

*French-US Workshop on Spintronics Saint Pierre de Chartreuse, France (2006)*

**Study of the role of magnetic interfaces on magnetic properties**

S. Mangin, T. Hauet, Y. Henry, F. Montaigne, J. A. Borchers and Eric E. Fullerton

*INTERREG IIIC ebird workshop "Material Sciences" University of Luxembourg (2006)*

**Manipulation of Domain Wall in Nanostructures with Perpendicular Anisotropy Driven by a Spin-polarized Current.**

D. Ravelosona, S. Mangin, Y. Lemaho, J. Katine, Eric E Fullerton and B. Terris.

*MRS Fall meeting, Boston USA (2006)*

**Transport tunnel polarise en spin dans les jonctions tunnel épitaxies**

C. Tiusan, F. Greullet, M. Sicot, M. Hehn, C. Bellouard, F. Montaigne, S. Andrieu, A. Schuhl

*20èmes Journées Surfaces et Interfaces", JSI 2006, Marseille, 1-3 février, 2006.*

**Influences of lateral domain and interface domain wall formation on exchange bias phenomena in TbFe/GdFe**

F. Montaigne, S. Mangin, T. Hauet, Y. Henri

*12th Workshop on Magnetism and Intermetallics, Sacavém, Portugal, 9-10 Février 2006*

**Spin filtering effects in single crystal Fe/MgO/Fe magnetic tunnel junctions**

C. Tiusan, F. Greullet, M. Hehn, F. Montaigne, S. Andrieu

*Innovative Mass Storage Technologies- European Phase Change Ovonic Science Minatec Crossroad 2006, May 29-31, 2006, Grenoble*

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C. Dufour et K. Dumesnil,

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**Spin-torque effect in perpendicular geometry**

S. Mangin, D. Ravelosona, J. A. Katine, Y. Henry, B. D. Terris and Eric E. Fullerton

*Workshop on Spin Transfer torque, Sendai, Japan (2007)*

**Spin-torque-induced reversal in nanopillars containing perpendicularly magnetized layers**

Eric E. Fullerton, S. Mangin, D. Ravelosona, J. A. Katine, Y. Henry, and B. D. Terris  
*APS March Meeting Denver, Colorado (2007)*

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**AUTRES CONFERENCES****2004****Polarization of (001) Fe covered by MgO analyzed by spin-resolved X-ray photoemission**

M. Sicot, S. Andrieu, P. Turban, Y. Fagot-Revurat, H. Cercellier, A. Tagliaferri, C. De Nadai, N. Brookes, F. Bertran, F. Fortuna,  
*MMM conference, 5-9 janvier 2004, Anaheim (USA).*

**Helical magnetic phase in (110)Eu films,**

C. Dufour, S. Soriano, K. Dumesnil, A. Stunault, T. Gourieux, Ph. Mangin  
*Metallic Multilayers Conference (Boulder, USA-2004)*

**Magnetic behavior of epitaxial Europium thin films,**

Ph. Mangin, S. Soriano, K. Dumesnil, C. Dufour, A. Stunault, T. Gourieux, Ph. Mangin  
*Conference on Magnetism and Magnetic Materials (Jacksonville, USA - 2004)*

**Magnetic structure of superlattices of Laves Phases,**

Ph. Mangin, K. Dumesnil, C. Dufour, M. Fitzimmons, J. Borchers  
*Conference on Magnetism and Magnetic Materials (Jacksonville, USA - 2004)*

**Capteur magnétique linéaire basé sur l'utilisation d'une bicouche sensible Ferro-/Anti-ferromagnétique**

G. Malinowski, M. Hehn, M. Sajjeddine, F. Montaigne, E. Jouguelet, F. Canet, M. Alnot, D. Lacour, A. Schuhl.  
*9<sup>ème</sup> Colloque Louis Néel "Couches Minces et Nanostructures Magnétiques", Autrans, France, 17-19 mars 2004.*

**Magnetic field sensor with low temperature drift using Ferro/Anti-Ferromagnetic bilayer**

G. Malinowski, M. Hehn, M. Sajjeddine, F. Montaigne, E. Jouguelet, F. Canet, M. Alnot, D. Lacour, A. Schuhl.  
*IEEE SENSORS 2004, Vienne, Autriche, 24-27 octobre 2004.*

**Compact Modeling of a Magnetic Tunnel Junction Using VHDL-AMS**

Jean-Baptiste Kammerer, Luc Hébrard, Michel Hehn, Francis Braun, Patrick Alnot and Alain Schuhl.  
*XIX Conference on Design of Circuits and Integrated Systems, Bordeaux, France, November 24-26, 2004*

**Compact modeling of a magnetic tunnel junction using VHDL-AMS: computer aided design of a two-axis magnetometer**

Jean-Baptiste KAMMERER, Luc HEBRARD, Michel HEHN, Francis BRAUN, Patrick ALNOT and Alain SCHUHL.

*IEEE SENSORS 2004 Vienne, Autriche, 24-27 octobre 2004.*

**Development of a magnetic tunnel transistor based on a double tunnel junction**

G. Rodary, M. Hehn, T. Dimopoulos, D. Lacour, J. Bangert, H. Jaffrès, F. Montaigne, F. Nguyen van Dau, F. Petroff, A. Schuhl, J. Wecker,

*Joint European Magnetic Symposia (JEMS' 04), Dresden 2004.*

**Magnetic configurations transition at the interface of exchange coupled bilayers studied by combining micromagnetic calculation and transport measurements**

F. Montaigne, Y. Henry and S. Mangin

*9th Joint MMM InterMag Conference, Anaheim (2004)*

**Correlation between exchange bias phenomena and interface magnetics configurations**

Y. Henry, S. Mangin and F. Montaigne

*Joint European Magnetic Symposia, Dresden (2004)*

**Correlation between exchange bias phenomena and interface magnetic configurations**

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*International Workshop on exchange Bias in Magnetic Nanostructures'04, Anglet (2004)*

**Transport et magnéto-transport...**

G. Rodary et al.

9<sup>ème</sup> colloque Louis Néel

*Autrans, France, 17-19 Mars 2004*

**Transitions of magnetic configuration at the interface of exchange coupled bilayers studied by combining micromagnetic calculation and transport measurements**

F. Montaigne, Y. Henry, S. Mangin

*9th Joint M M M /InterMag Conference (Anaheim, January 5 – 9, 2004).*

**Magnetoresistance versus electronic structure in epitaxial magnetic tunnel junctions**

J. Faure-Vincent, C. Tiusan, C. Bellouard, M. Hehn, F. Montaigne, E. Jouguelet, A. Schuhl

*Conference on Magnetism and Magnetic Materials, January 5-9 2004, Anaheim (USA).*

**Spin dependent tunnel transport in epitaxial junctions Fe/MgO/Fe**

J. Faure-Vincent, C. Tiusan, E. Jouguelet, C. Bellouard, M. Hehn, A. Schuhl

*Louis Néel Colloquium "Thin films and magnetic nanostructures", March 17-19 2004, Autrans (France).*

**2005**

**Electronic and magnetic properties of single-crystalline X/MgO(001) interfaces (X=Mn,Fe,Co)**

M. Sicot, S. Andrieu, F. Bertran, F. Fortuna,  
*E-MRS, Strasbourg, 31 mai-3 juin 2005*

**Spin polarization of an electrode measured through an insulating barrier : application to NiMnSb and Fe/MgO(001)**

S. Andrieu, M. Sicot, Y. Fagot-Reyvurat, A. Tagliaferri, N.B. Brookes,  
*Symposium on Surface Science 2005, 13-19 mars 2005, Les Arcs (France)*

**Depth profile of magnetization of a Laves phase exchange coupled superlattice**

M. Fitzimmons, K. Dumesnil, R. Pynn, J. Borchers, C. Dufour, Ph. Mangin  
*International Materials Research Conference, (Cancun Mexico - 2005)*

**Croissance et magnétisme de  $\text{Sm}_{1-x}\text{Gd}_x\text{Al}_2$ , un ferromagnétique sans moment,**

A. Avisou, C. Dufour, K. Dumesnil, A. Rogalev, F. Wilhelm  
*Congrès Louis Néel (Dourdan France - 2005)*

 **$\text{Sm}_{1-x}\text{Gd}_x\text{Al}_2$  films : a ferromagnet without magnetization,**

A. Avisou, C. Dufour, K. Dumesnil, A. Rogalev, F. Wilhelm  
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**Depth dependent magnetic study of exchange-coupled superlattices,**

K. Dumesnil, M. Fitzimmons, J. Borchers, J. Kortright, Ph. Mangin, S. Park, R. Pynn, C. Dufour, J. Rhyne,  
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**Films épitaxiés de  $\text{SmGdAl}_2$  et  $\text{Sm}_{1-x}\text{Gd}_x\text{Al}_2$  : croissance, structure et magnétisme,**

A. Avisou, C. Dufour, K. Dumesnil, D. Pierre, E. Snoeck,  
*IEACM (Nancy, France - 2005)*

**Magnetic tunnel junctions with composite tunnel barriers : asymmetric transport characteristics**

M. Hehn, C. de Buttet, F. Montaigne, A. Schuhl, L. Le Brizoual, P. Alnot, E. Snoeck, S. Zoll,  
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**New Magnetic Field Sensor for Automotive Applications**

C. Duret, R. Nantua, G. Malinowski, M. Hehn,  
*6th international workshop on research and education in mechatronics , 30<sup>rd</sup> June – 1<sup>st</sup> July 2005, Annecy, France*

**Jonctions tunnel magnétiques avec des barrières composites : caractéristiques tunnel asymétriques**

C. de Buttet, M. Hehn, F. Montaigne, C. Tiusan, A. Schuhl, L. Le Brizoual, P. Alnot, E. Snoeck, S. Zoll.  
*10<sup>ème</sup> Colloque Louis Néel "Couches Minces et Nanostructures Magnétiques", 21-23 septembre 2005, Dourdan, France.*

**Effet de filtrage dans les jonctions tunnel épitaxiées**

M. Sicot, C. Tiusan, S. Andrieu, F. Montaigne, C. Bellouard, M. Hehn, A. Schuhl, F. Bertran, F. Fortuna, A. Tagliaferri, N. Brookes.

10<sup>ème</sup> Colloque Louis Néel “Couches Minces et Nanostructures Magnétiques”, 21-23 septembre 2005, Dourdan, France.

**Magnetic Domain Walls and Interface Spin Structures in Exchange-biased GdFe/TbFe Bilayers**

S. Mangin, T. Hauet, Y. Henry, F. Montaigne

50th Magnetism and Magnetic Materials conference (MMM-2005) San Jose CA –USA

**Influence of both lateral domain formation and interface domain wall on exchange bias phenomena**

S. Mangin, T. Hauet, Y. Henry, F. Montaigne and Eric.E. Fullerton

*American Physical Society (APS) Los Angeles (2005)*

**Training effect in exchange coupled GdFe/TbFe: role of Interface domain wall evidence by Polarized neutron reflectometry**

T. Hauet, S. Mangin, Y. Henry, F. Montaigne

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**Origin of the threshold current for DW motion under spin transfer**

D. Ravelosona, S. Mangin, J. Katine, Eric. E. Fullerton and B. Terris

*50th Magnetism and Magnetic Materials conference (MMM) San Jose (2005)*

**Retournement d'aimantation par transfert de spin dans des nanostructures magnéto-résistives**

D. Lacour et al.

10<sup>ème</sup> colloque Louis Néel

*Dourdan, France, 21-23 Septembre 2005*

**Spin-filtering in epitaxial tunnel junctions**

C. Tiusan, F. Greullet, M. Sicot, M. Hehn, C. Bellouard, F. Montaigne, S. Andrieu, A.Schuhl

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**On the quality of MBE grown Fe/MgO and Co/MgO (001) interfaces**

M.Sicot, S. Andrieu, C. Tiusan F. Bertran, F. Montaigne

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**Schottky barrier formation and its effect on a Si-based spin tunnel transistor**

C. Denis, C. Tiusan, R.A. Ferreira, E. Hourdakis, N. Zimmerman, A. Adler, A.P. Chen, W.E. Egelhoff, J.F. Gregg, G.J. Ensel, S.M. Thompson, P.P. Freitas.

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**Engineering of spin-filtering in epitaxial tunnel junctions**

C. Tiusan, F. Greullet, M. Sicot, M. Hehn, C. Bellouard, F. Montaigne, S. Andrieu, A.Schuhl

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**On the quality of MBE grown Fe/MgO and Co/MgO (001) interfaces**

M.Sicot, S. Andrieu, C. Tiusan F. Bertran, F. Montaigne  
J. Appl. Phys. Vol. 99, 08A903, (2006).  
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**Tunnel transport and symmetry filtering effects in single crystal tunnel junctions**

F. Greullet, C. Tiusan, M. Hehn, F. Montaigne, S. Andrieu  
*Workshop N° 2 "Nanosciences & Nanotechnologies", University Henri Poincaré (Nancy, France) / June 8-9, 2006*

**Spin filtering in Fe/MgO based magnetic tunnel junctions**

F. Greullet, C. Tiusan, M. Hehn, F. Montaigne, C. Bellouard, A. Schuhl  
*INTERREG III-C Nancy, - 8 June 2006.*

**Current-induced magnetization reversal in nanopillars with perpendicular anisotropy**

S. Mangin, D. Ravelosona, J. A. Katine, M.J. Carey, Y. Henry, B. D. Terris and Eric E. Fullerton  
*Workshop on Nanoscience & nanotechnology, Nancy (2006)*

**Training effect in exchange coupled GdFe/TbFe: role of Interface domain wall evidence by Polarized neutron reflectometry**

T. Hauet, J.A. Borchers, Y. Henry and S. Mangin  
*INTERREG IIIC ebird workshop "Material Sciences" University of Luxembourg (2006)*

**Spin polarization in zero-moment  $\text{Sm}_{1-x}\text{Gd}_x\text{Al}_2$  films,**

K. Dumesnil, A. Avisou et C. Dufour  
*JEMS San Sebastian, Espagne (2006)*

**2007**

**Modulation des effets de filtrage par insertion de bcc Cr(001) fin dans des jonctions tunnel monocristallines Fe/Cr/MgO/Fe(001)**

F.Greullet, D. Halley, C. Tiusan, M. Hehn, F. Montaigne, G. Lengaigne, J. Arabski, W. Weber, O. Bengone, D. Lacour  
*11ème colloque Louis Néel "Couches minces et Nanostructures Magnétiques", Valpré Lyon, 14-16 mars 2007.*

**Spin polarized tunnelling in single crystal Fe/Cr/MgO/Fe junctions**

C. Tiusan, F. Greullet, D. Halley, F. Montaigne, G. Lengaigne, J. Arabski, M. Hehn, W. Weber  
*10th Joint MMM/Intermag Conference, Baltimore Marylands, USA, 7-11 January 2007*

**Magneto-transport in single crystal Fe<sub>3</sub>O<sub>4</sub>/MgO/Co magnetic tunnel junctions**

F. Greullet, E. Snoeck, C. Tiusan, F. Montaigne, G. Lengaigne, L. Calmels, B. Warot, M.

Hehn

*10th Joint MMM/Intermag Conference, Baltimore Marylands, USA, 7-11 January 2007*

**Stochastic behavior of domain wall manipulation in magnetic nano-wires**

J. Briones, F. Montaigne, M. Hehn, D. Lacour, M. J. Carey, J. R. Childress

*10<sup>th</sup> Joint MMM/Intermag conference, MMM2007, January, 7-11, Baltimore, Maryland*

**Role of interface domain wall on magnetoresistance in bilayers and spin valve structures**

T. Hauet, S. Mangin, M. Hehn, F. Montaigne, Y. Henry, E. E. Fullerton

*10<sup>th</sup> Joint MMM/Intermag conference, MMM2007, January, 7-11, Baltimore, Maryland*

**Influence of exchange coupling and Dipolar interaction on magnetic configurations in perpendicular [Pt/Co]<sub>n</sub>/TbFe and [Pt/Co]<sub>n</sub>/Pt/TbFe**

S. Mangin, Eric. E. Fullerton, T. Hauet, P. Fischer, D.-H. Kim, J. Kortright, K. Chesnel, E. Arenholz

*10<sup>th</sup> Joint MMM-Intermag conference, Baltimore (2007)*

**Influence of field orientation on current-induced magnetization reversal in nanopillars with perpendicular anisotropy**

Y. Henry, S. Mangin, D. Ravelosona, J. A. Katine, and E. E. Fullerton

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**Influence of the cooling field and temperature on exchange bias effect in GdFe/TbFe bilayer**

T. Hauet, S. Mangin, J. Borchers, F. Montaigne, and E. E. Fullerton

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**Magnetic configuration in antiferromagnetically coupled [Co/Pd]<sub>15</sub>/TbFeCo with out-of-plane anisotropy**

S.M. Watson, J.A. Borchers, T. Hauet, S. Mangin and E. E. Fullerton

*American Physical society (APS) March meeting Denver (2007)*

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**COMMUNICATIONS POSTERS A DES CONGRES ET SYMPOSIUM**

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**2004**

**Phases magnétiques et cohérence magnétique dans les superréseaux Sm/Nd(001),**

S. Soriano, C. Dufour, K. Dumesnil, A. Stunault

*Congrès Louis Néel (Autran, France - 2004)*

**Localisation des parois magnétiques dans les superréseaux couplés par échange DyFe<sub>2</sub>/YFe<sub>2</sub>,**

A. Avisou, K. Dumesnil, C. Dufour, Ph. Mangin, A. Rogalev, F. Wilhelm, N. Jaouen

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**Magnetic domain walls and exchange phenomena in DyFe<sub>2</sub>/YFe<sub>2</sub> superlattices,**

K. Dumesnil, A. Avisou, C. Dufour, A. Rogalev, F. Wilhelm, N. Jaouen  
*9th Joint MMM-Intermag Conference (Anaheim, USA – 2004)*

**Localisation of magnetic domain walls in DyFe<sub>2</sub>/YFe<sub>2</sub> exchange coupled superlattices,**

A. Avisou, K. Dumesnil, C. Dufour, A. Rogalev, F. Wilhelm, N. Jaouen  
*Metallic Multilayers Conference (Boulder, USA – 2004)*

**Original magnetic phases and magnetic coherence in (0001) Sm/Nd superlattices,**

S. Soriano, C. Dufour, K. Dumesnil, A. Stunault  
*Metallic Multilayers Conference (Boulder, USA – 2004)*

**Using antiferromagnetic/ferromagnetic bilayers as detection layers in magnetic tunnel junctions**

G. Malinowski, M. Hehn, M. Sajieddine, F. Montaigne, E. Jouguelet, F. Canet, M. Alnot, D. Lacour, A. Schuhl.  
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**Magnetic origin of enhanced top exchange biasing in Py/IrMn/Py multilayers**

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**Magnetic origin of enhanced top exchange biasing in Py/IrMn/Py multilayers**

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**MgO tunnel barriers made by sputtering: experimental results and free electron modelling**

G. Malinowski, C. de Buttet, M. Hehn, F. Montaigne, E. Jouguelet, C. Tiusan, J. Faure-Vincent and A. Schuhl.  
9<sup>ème</sup> Colloque Louis Néel “*Couches Minces et Nanostructures Magnétiques*”, 17-19 mars 2004, Autrans, France.

**Capteur magnétique linéaire basé sur l'utilisation d'une bicouche sensible Ferro-/Anti-ferromagnétique**

G. Malinowski, M. Hehn, M. Sajieddine, F. Montaigne, E. Jouguelet, F. Canet, M. Alnot, D. Lacour, A. Schuhl.  
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**Magnetic field sensor with low temperature drift using Ferro/Anti-Ferromagnetic bilayer**

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**Technique du fluxgate étendue à deux dimensions : la MTJ comme magnétomètre**

J.-B. Kammerer, L. Hébrard, M. Hehn, F. Braun, P. Alnot et A. Schuhl,  
*Journées du Club EEA, Fuveau, France, 25-26 mars 2004.*

**Tuning of a single-MTJ two-axis magnetometer: application of the Stoner-Wohlfarth model**

Jean-Baptiste KAMMERER, Luc HEBRARD, Michel HEHN, Francis BRAUN, Patrick ALNOT and Alain SCHUHL.

*IEEE SENSORS 2004 Vienne, Autriche, 24-27 octobre 2004.*

**Magnetization reversal in exchange coupled GdFe/TbFe studied by X-ray magnetic Circular Dichroism**

S. Mangin, C. Bellouard, S. Andrieu, F. Montaigne P. Ohresser N. Brookes

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**Determination of the interfacial domain wall chirality in an exchange-coupled hard/soft bilayer by anisotropic magnetoresistance measurements**

Y. Henry, S. Mangin and F. Montaigne

*9th Joint MMM Intermag Conference, Anaheim (2004)*

**Correlation between exchange bias phenomena and interface magnetics configurations**

S. Mangin, Y. Henry and F. Montaigne

*9th Joint MMM Intermag Conference, Anaheim (2004)*

**Magnetic configurations transition at the interface of exchange coupled bilayers studied by combining micromagnetic calculation and transport measurements**

Y. Henry, F. Montaigne, and S. Mangin

*Joint European Magnetic Symposia, Dresden (2004)*

**EXCHANGE BIAS négatif et positif dans des bicouches ferrimagnétique/ferrimagnétique**

S. Mangin, Y. Henry, F. Montaigne, T. Hauet

*International Workshop on exchange Bias in Magnetic Nanostructures'04, Anglet (2004)*

**Effets de transfert de spin dans des vannes de spin nanométriques**

D. Lacour, J.A. Katine, F. Montaigne, N. Smith, M.J. Carrey, J.R. Childress

9<sup>èmes</sup> Journées de la Matière Condensée

*Nancy, France, August 30-September 3 2004*

**Etude des effets de magnétorésistance dans un système à paroi de domaine magnétique**

T. Hauet et al.

9<sup>ème</sup> colloque Louis Néel

*Autrans, France, 17-19 Mars 2004*

**Changement de chiralité de la paroi de domaine interfaciale dans une bicouche magnétique dure/douce**

Y. Henry, F. Montaigne, S. Mangin

9<sup>ème</sup> colloque Louis Néel

*Autrans, France, 17-19 Mars 2004*

**"Exchange bias" ...**

S. Mangin, Y. Henry, F. Montaigne  
9<sup>ème</sup> colloque Louis Néel  
*Autrans, France, 17-19 Mars 2004*

**Artificial antiferromagnetic system based on spin polarised tunneling**

C. Tiusan, J. Faure-Vincent, E. Jouguelet, C. Bellouard, M. Hehn, A. Schuhl  
*Louis Néel Colloquium "Thin films and magnetic nanostructures", March 17-19 2004, Autrans (France).*

**Systeme antiferromagnetique artificiel crée par effet tunnel**

C. Tiusan, J. Faure-Vincent, E. Jouguelet, C. Bellouard, M. Hehn, E. Snoeck, A. Schuhl  
*Journées de la Matière Condensée (JMC9), 30 août- 3 septembre 2004, Nancy (France).*

**Transport tunnel polarise en spin dans le système hybride épitaxié Fe/MgO/Fe**

J. Faure-Vincent, C. Tiusan, E. Jouguelet, C. Bellouard, M. Hehn, F. Montaigne  
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**Artificial antiferromagnetic systems based on spin polarized tunnelling**

C. Tiusan, M. Hehn, J. Faure-Vincent, C. Bellouard, A. Schuhl  
*International Workshop on Exchange Biased Magnetic Nanostructures IWEBN'04  
16-18 septembre 2004, Anglet (France).*

**2005**

**Renversement d'aimantation dans les superréseaux DyFe<sub>2</sub>/YFe<sub>2</sub> : étude résolue en épaisseur par réflectivité résonnante des RX,**

K. Dumesnil, J. Kortright, C. Dufour  
*Congrès Louis Néel (Dourdan, France - 2005)*

**Transition magnéto-structurale dans les films d'euporium épitaxiés : diffraction à haute résolution et en incidence rasante (GIXS),**

K. Dumesnil, M. Toney, C. Dufour, Ph. Mangin  
*Congrès Louis Néel (Dourdan, France - 2005)*

**Nanostructures magnétiques réalisées par lithographie électronique : modulation de topologie et nanoconstrictions**

J. Briones, D. Lacour, F. Montaigne, M. Hehn, A. Schuhl.  
10<sup>ème</sup> Colloque Louis Néel "Couches Minces et Nanostructures Magnétiques", 21-23 septembre 2005, Dourdan, France.

**Spin texture in magnetostrictive TbFe/Fe multilayers**

J. \_Juraszek\_, J. Teillet, A. Grenier, Th. Hauet, S. Mangin, N. Tiercelin  
*International Conference on the Applications of the Mossbauer Effect'  
05, Montpellier (2005)*

**Nanostructured magnetostrictive material induced by heavy ion irradiation**

J. Juraszek, J. \_Teillet\_, A. Grenier, N. Tiercelin, Th. Hauet, S.

Mangin and M. Toulemonde

*International Conference on the Applications of the Mossbauer Effect'*  
05, Montpellier (2005)

**Influence des domaines latéraux et des parois de domaines d'interfaces dans les phénomènes de couplage d'échange**

T. Hauet, S. Mangin, F. Montaigne et al.

*10<sup>ème</sup> colloque Louis Néel, Dourdan, France, 21-23 Septembre 2005*

**2006**

**Spin filtering effects in single crystal Fe/MgO/Fe magnetic tunnel junctions**

C. Tiusan, M. Hehn, F. Montaigne, S. Andrieu, M. Sicot, J. Faure Vincent, F. Greullet, A. Schuhl

*French-US Workshop on Spintronics, Saint Pierre de Chartreuse 12-14th June 2006*

**Etude des propriétés magnétiques de multicouche Fe/Cu**

S. El-Khiraoui, M. Sajieddine, M. Hehn, S. Robert, O. Lenoble, C. Bellouard, M. Sahlaoui et K. Ben-Kirane, 10<sup>ème</sup> JMC, septembre 2006, Toulouse, France.

**Comportement stochastique dans la manipulation de parois de domaines dans des nanofils**

J. Briones, D. Lacour, F. Montaigne, M. Hehn, M. J. Carey, J. R. Childress, 10<sup>ème</sup> JMC, septembre 2006, Toulouse, France.

**Stochastic behavior of domain wall manipulation in magnetic nano-wires**

J. Briones, D. Lacour, F. Montaigne, M. Hehn, M. J. Carey, J. R. Childress, International Workshop on Spin Transfer, 2 – 4 Octobre 2006, Nancy, France.

**2007**

**Transition ferromagnétique/superparamagnétique induite par oxydation**

D. Lacour, M. Hehn, M. Alnot, F. Montaigne, F. Greullet, G. Lengaigne, O. Lenoble, S. Robert, C. Tiusan, B. Negulescu, A. Schuhl

*11ème colloque Louis Néel "Couches minces et Nanostructures Magnétiques", Valpré Lyon, 14-16 mars 2007.*

**Oxydation contrôlée à l'interface Fe/MgO et transport dans les jonctions tunnel Fe/MgO/Fe(001) épitaxiées**

F. Bonnel, A.M. Bataille, A. Ben Hamida, S. Andrieu, C. Tiusan, F. Montaigne  
*11ème colloque Louis Néel "Couches minces et Nanostructures Magnétiques", Valpré Lyon, 14-16 mars 2007.*

**Transport tunnel polarisé en spin dans des jonctions tunnel magnétiques hybrides monocristalline/polycristalline**

F. Greullet, M. Hehn, C. Tiusan, D. Lacour, F. Montaigne, G. Lengaigne, E. Snoeck, M. Alnot, C. Bellouard

*11ème colloque Louis Néel "Couches minces et Nanostructures Magnétiques", Valpré Lyon, 14-16 mars 2007.*

**Modification par implantation ionique du couplage d'échange dans des jonctions tunnel magnétiques épitaxiales Fe/MgO/Fe**

E. Snoeck, P. Baules, G. Benassayag, C. Tiusan, F. Greulet, M. Hehn, A. Schuhl  
11ème colloque Louis Néel "Couches minces et Nanostructures Magnétiques", Valpré Lyon,  
14-16 mars 2007.

**Spin polarized tunnelling in hybrid single crystal-polycrystalline magnetic tunnel junctions**

F. Greullet, C. Tiusan, M. Hehn, F. Montaigne, G. Lengaigne, M. Alnot, C. Bellouard,  
D. Lacour  
*10th Joint MMM/Intermag Conference, Baltimore Marylands, USA, 7-11 January 2007*

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**LIVRES – CHAPITRES – DIFFUSION DES CONNAISSANCES**

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Livres, chapitre de livre :

**Les surfaces solides : concepts et méthodes**

S. Andrieu et P. Müller, Les Editions de Physique et le CNRS  
Collection Savoirs Actuels de l'ancienne édition du CNRS, septembre 2005

**Contraintes mécaniques en micro, nano et optoélectronique****Chap. 6 : Croissance cristalline et génération de contraintes**

S. Andrieu, Hermes Science, ed. M. Louis, 2006, ISBN 2-7462-1308-7

**High angle magnetic X-ray diffraction**

C. Dufour, K. Dumesnil, T. Gourieux

« Magnetism : a synchrotron radiation approach », Lectures Notes in Physics, Springer, E.  
Editeurs : Beaurepaire *et al* (2006).

Diffusion des connaissances :

**A l'intérieur de l'ordinateur (2005)**

de Alain Schuhl,

Illustration de Stud – Editions Le Pommier 239 rue Saint Jacques 75005 Paris – ISBN 2-7465-0221-6

**Les ordinateurs de demain (2004)**

de Alain Schuhl,

Préface de Joël de Rosnay -- Editions Le Pommier 239 rue Saint Jacques 75005 Paris – ISBN 2-7465-0183-X

**La musique est-elle une science (2005)**

de Alain Schuhl, Jean-Luc Schwartz -- Editions Le Pommier 239 rue Saint Jacques 75005 Paris – ISBN 2-7465-0257-7

**Expériences et paradoxes (2005) Alain Schuhl**

Illustrations de Jacques Lerouge – Edt e-net pour Nature et Découverte.

Film :

**Electronique de spin et capteurs magnétiques,**

Film réalisé par la Cellule TICE de l'I.N.P.L pour Canal U

C. Tiusan, M. Hehn, F. Montaigne

**Epitaxie par jet moléculaire,**

Film réalisé par la Cellule TICE de l'I.N.P.L pour Canal U

S. Andrieu, M. Sicot

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**BREVETS****(1)**

**Brevet PCT SC14018CF** du 20 septembre 2005 déposé au nom de la société Freescale Semiconductor et du CNRS par les inventeurs M. Hehn, C. De Buttet et S. Zoll. Il demande la protection de l'invention intitulée « Spin-dependent tunnelling cell and method of formation thereof ».

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**PRIX-MEDAILLES****(2)**

**11/2004**

Grand Prix pour la Recherche de la Société Industrielle de l'Est à l'équipe de recherche technologique de l'Université Henri Poincaré

**MEDAILLE de BRONZE du CNRS pour l'année antibuée à Coriolan TIUSAN**

Département Mathématiques, physique, planète et univers (MPPU).

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**COURS DANS DES ECOLES DE PHYSIQUES**

**Magnetic X-ray diffraction.**

Catherine Dufour

*IV<sup>th</sup> International School on Magnetism and Synchrotron Radiation (Mittelwhir, France–octobre 2004.*

**EPR paradox, Bell theorem and intrication at a distance.**

Catherine Dufour

*Mochima theoretical physics spring school (Mochima, Vénézuéla -Juin 2005)*

**Spin electronics**

*Conférence InterReg III C « Etudier sans Murs », Nancy, 20 mai 2005*

**New trends in thin films : from spin electronics towards nanotechnology**

C. Tiusan, Cluj-Napoca (Romania), Janvier (2005)

**L'épitaxie par jets moléculaires**

Formation SFV « PVD - Magnétron - Evaporation – MBE »

S. Andrieu et D. Pierre, cours de 2h et TP de 2h sur l'EJM, 9-10 mars 2004, Nancy

**L'épitaxie par jets moléculaires**

Formation SFV « PVD - Magnétron - Evaporation – MBE »

S. Andrieu et D. Pierre, cours de 2h et TP de 2h sur l'EJM, 8-10 mars 2005, Nancy

**Croissance et épitaxie par jets moléculaires**

Formation CNRS « Nanosciences et Nanotechnologies : des concepts de base aux applications » S. Andrieu, cours de 1h30, LILLE 4-7 juillet 2005

**Croissance épitaxiale de couches minces et techniques de caractérisation in-situ**

Conférence SFV « Innovations pour l'Elaboration et les Applications des Couches Minces »

S. Andrieu, cours 1h30, Nancy, 22-24 Novembre 2005

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**Séminaires invités dans des Laboratoires**

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**2004**

Karine Dumesnil

*National Institut of Standard and Technology (janvier 2004)*

Karine Dumesnil

*Advanced Light Source, Lawrence Berkeley National Laboratory , Berkeley, USA (janvier 2004)*

Karine Dumesnil

*Physics department, Stanford University, Palo Alto, USA (janvier 2004)*

Stéphane Mangin

*"CMMR - UCSD" San Diego (2004)*

Stéphane Mangin

*"San Jose research center Hitachi GST" San Jose (2004)*

Stéphane Mangin

*"Laboratoire Louis Néel" Grenoble (2004)*

**2005**

Stéphane Mangin

*"Advanced Light Source" Berkeley (2005)*

2006

Stéphane Mangin  
"Universität Duisburg-Essen" Duisburg (2007)

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## ORGANISATION DE CONGRES

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*JMC9 Nancy 2004*

*IWEBN'04, the International Workshop on Exchange Biased Magnetic Nanostructures, Anglet  
16-18 September 2004*

Alain Schuhl  
*Symposium « Spintronic » au EMRS à Strasbourg en juin 2005.*  
Editeur du recueil de proceedings [Materials Science and Engineering: B Volume 126, Issues  
2-3](#), Pages 107-314

*Innovations pour l'Elaboration et les Applications des Couches Minces –IEACM2  
Nancy, 22-24 Novembre 2005*

*IWST'06, the International Workshop on Spin Transfer, Nancy 2-4 October 2006.*  
<http://www.lpm.u-nancy.fr/IWST2006/>

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## Thèses soutenues

(4)

Sous la direction de S. Andrieu :

**Des interfaces réelles métal/MgO(001) au transport dans les jonctions tunnel épitaxiées**

Soutenue par M. Sicot le 30 septembre 2005

Jury : O. Fruchard, E. Sirotti, G. Krill, P. Beauvillain, M. Piecuch, S. Andrieu, C. Tiusan

Sous la direction de A. Schuhl et M. Hehn :

**Transport dépendant du spin et couplage d'échange : de la jonction tunnel au capteur magnétique intégré**

Soutenue par G. Malinowski le 20 décembre 2004

Jury : C. Duret, A. Fert, D. Givord, M. Hehn, A. Schuhl, J. Teillet

Sous la direction de A. Schuhl et S. Mangin:

**Décalage d'échange et magnétorésistances dans des bicouches à base de ferrimagnétiques amorphes couplés par échange**

Soutenue par T. Hauet le 18 septembre 2006

Jury A. Thiaville, F. Petroff, O. Fruchart, J.A. Borchers, A. Schuhl, S. Mangin

Sous la direction de C. Dufour et K. Dumesnil :

**Croissance épitaxiale et propriétés magnétiques de films de SmGdAl<sub>2</sub>: un ferromagnétique sans moment**

Soutenue par A. Avisou le 1 décembre 2006

Jury : S. Andrieu, B. Barbara, A. Marty, A. Rogalev, J.F. Bobo, C. Dufour

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**Habilitations à diriger les recherches soutenues (3)**

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**Magnétisme et transport polarisé en spin : de la couche mince aux dispositifs à électronique de spin.**

Soutenu par M. Hehn le 18 Octobre 2004

Jury : C. Chappert, J.-F. Bobo, J.-P. Nozières, A. Schuhl

**Propriétés électroniques à l'équilibre et hors équilibre des systèmes de type multicouche magnétique : la spintronique de dispositifs à base de jonctions tunnel**

Soutenu le 22/11/2006 par Coriolan TIUSAN

Jury: Agnes Barthelemy, Bernard Dieny, Evgeny Tsymbal, Ron Jansen, Jacques Teillet, Daniel Malterre, Alain Schuhl

**Configurations magnétiques d'interfaces dans des systèmes modèles**

Soutenu par S. Mangin le 5 Octobre 2006

Jury : C. Chappert, B. Dieny, S. Andrieu, B. Barbara, J. Kirschner, E. E. Fullerton