

# Publications of Patrick Bruno

## Review papers and book chapters

- **The Berry phase in magnetism and the anomalous Hall effect**  
*P. Bruno*  
in: Handbook of Magnetism and Advanced Magnetic Materials, Volume 1: Fundamentals and Theory, Eds. H. Kronmüller and S.S.P. Parkin, John Wiley & Sons Ltd, Chichester, United Kingdom 2007, pp. 540–548.  
(Reference: **R15**)
- **Exchange interactions, spin waves, and transition temperatures in itinerant magnets**  
*I. Turek, J. Kudrnovský, V. Drchal, and P. Bruno*  
Phil. Mag. **86**, 1712—1752 (2006)  
(Reference: **R14**)
- **First-principles study of the magnetism of diluted magnetic semiconductors**  
*L.M. Sandratskii and P. Bruno*  
in “Local-Moment Ferromagnets. Unique Properties for Modern Applications”, **678**, pp 113-130 Springer, Berlin (2005)  
(Reference: **R13**)
- **Berry phase effects in magnetism**  
*P. Bruno*  
in “Magnetism goes nano”, 36<sup>th</sup> Spring School of the Institute of Solid State Research (Jülich), edited by Stefan Blügel, Thomas Brückel, and Claus M. Schneider, pp. E9.1 – E9.33, Forschungszentrum Jülich (2005)  
(Reference: **R12**)
- **Ab initio theory of exchange interactions in itinerant magnets**  
*I. Turek, J. Kudrnovský, V. Drchal, P. Bruno, and S. Blügel*  
phys. stat. sol. (b) **236**, 318-324 (2003)  
(Reference: **R11**)
- **Double photoemission studies at metal surfaces**  
*N. Fominykh, J. Henk, J. Berakdar, and P. Bruno*  
in "Correlations, Polarization, and Ionization in Atomic Systems" edited by Don H. Madison, and Michael Schulz (AIP, Melville, New York, 2002), pp. 210 -216  
(Reference: **R10**)
- **Spin and charge transport in the presence of spin-orbit interaction**  
*T.P. Pareek and P. Bruno*  
Pramana - Journal of Physics **58**, 293-311 (2002)  
(Reference: **R9**)
- **Interlayer exchange interactions in magnetic multilayers**

**P. Bruno**

in "Magnetism: Molecules to Materials", vol. III: "Nanosized Magnetic Materials", edited by Joel S. Miller and Marc Drillon (Wiley-VCH, Weinheim, 2002), chap. 9, pp. 329 - 353.

(Reference: **R8**)

- **Double-electron photoemission from surfaces**

*N. Fominykh, J. Henk, J. Berakdar, P. Bruno, H. Gollisch, R. Feder*

in "Many Particle Spectroscopy of Atoms, Molecules, Clusters, and Surfaces", edited by J. Berakdar and J. Kirschner (Kluwer Academic/Plenum Publishers, New York, 2001), pp. 461 - 470

(Reference: **R7**)

- **Ab initio theory of the interlayer exchange coupling**

*J. Kudrnovský, V. Drchal, I. Turek, P. Bruno, P. Dederichs and P. Weinberger*

in "Electronic Structure and Physical Properties of Solids", edited by Hugues Dreysse (Springer Verlag, Berlin, 2000), pp. 313 - 346.

(Reference: **R6**)

- **Theory of interlayer exchange interactions in magnetic multilayers**

**P. Bruno**

J. Phys.: Condens. Matter **11**, 9403-9419 (1999)

(Reference: **R5**)

- **Theory of interlayer exchange coupling**

**P. Bruno**

in "30. Ferienkurs des Instituts für Festkörperforschung: Magnetische Schichtsysteme", edited by P.H. Dederichs and P. Grünberg, Forschungszentrum Jülich (1999)

(Reference: **R4**)

- **Quantum size effects and related phenomena in magnetic ultrathin films and multilayers**

**P. Bruno**

in "Synchrotron Radiation and Magnetism", edited by É. Beaurepaire, B. Carrière, and J.-P. Kappler, pp. 211-243, Les Éditions de Physique, Les Ulis (1997)

(Reference: **R3**)

- **Exchange coupled multilayers and magnetoresistance**

*A. Fert and P. Bruno*

in "Ultrathin Magnetic Structures", vol. 2, edited by B. Heinrich and J.A.C. Bland, chap. 2.2, pp. 82-117, Springer Verlag, Berlin (1994)

(Reference: **R2**)

- **Physical origins and theoretical models of magnetic anisotropy**

**P. Bruno**

in "Magnetismus von Festkörpern und grenzflächen"

edited by P.H. Dederichs, P. Grünberg, and W. Zinn, 24. IFF-Ferienkurs, pp. 24.1-24.28, Forschungszentrum Jülich (1993)

(Reference: **R1**)

## Original publications in refereed journals

## 2008

- **Kondo Effect in Single Atom Contacts: The Importance of the Atomic Geometry**  
L. Vitali, R. Ohmann, S. Stepanow, P. Gambardella, K. Tao, R. Huang, V.S. Stepanyuk, **P. Bruno**, and K. Kern  
Phys. Rev. Lett. **101**, 216802 (2008) (4 pages)  
(Reference: **P202**)
- **Chiral two-dimensional electron gas in a periodic magnetic field: Persistent current and quantized anomalous Hall effect**  
M. Taillefumier, V.K. Dugaev, B. Canals, C. Lacroix, and **P. Bruno**  
Phys. Rev. B **78**, 155330 (2008) (10 pages)  
(Reference: **P201**)
- **Effect of exchange interaction on the spin-polarized bound states on metal surfaces: *Ab initio* study**  
O.O. Brovko, V.S. Stepanyuk, and **P. Bruno**  
Phys. Rev. B **78**, 165413 (2008) (5 pages)  
(Reference: **P200**)
- **Spin Wave Dispersion on the Nanometer Scale**  
C.L. Gao, A. Ernst, G. Fischer, W. Hergert, **P. Bruno**, W. Wulfhekel, and J. Kirschner  
Phys. Rev. Lett. **101**, 167201 (2008) (4 pages)  
(Reference: **P199**)
- **Comment on “Weak Localization in Ferromagnetic (Ga,Mn)As Nanostructures”**  
V.K. Dugaev, **P. Bruno**, and J. Barnaś  
Phys. Rev. Lett. **101**, 129701 (2008) (1 page)  
(Reference: **P198**)
- **Vibrations of small cobalt clusters on low-index surfaces of copper: Tight-binding simulations**  
S.D. Borisova, S.V. Eremeev, G.G. Rusina, V.S. Stepanyuk, **P. Bruno**, and E.V. Chulkov  
Phys. Rev. B **78**, 075428 (2008) (17 pages)  
(Reference: **P197**)
- **Tailoring Exchange Interactions in Engineered Nanostructures: An *Ab Initio* Study**  
O.O. Brovko, P.A. Ignatiev, V.S. Stepanyuk, and **P. Bruno**  
Phys. Rev. Lett. **101**, 036809 (2008) (4 pages)

(Reference: **P196**)

- **Self-aligning atomic strings in surface-supported biomolecular gratings**  
*A. Schiffrin, J. Reichert, W. Auwärter, G. Jahnz, Y. Pennec, A. Weber-Bargioni, V.S. Stepanyuk, L. Niebergall, P. Bruno, and J.V. Barth*  
 Phys. Rev. B **78**, 035424 (2008) (7 pages)  
 (Reference: **P195**)
- **Manipulating magnetism and conductance of an adatom-molecule junction on a metal surface: An *ab initio* study**  
*K. Tao, V.S. Stepanyuk, P. Bruno, D.I. Bazhanov, V.V. Maslyuk, M. Brandbyge, and I. Mertig*  
 Phys. Rev. B **78**, 014426 (2008) (4 pages)  
 (Reference: **P194**)
- **Noncollinear Surface Spin Density by Surface Reconstruction in the Alloy NiMn**  
*C.L. Gao, A. Ernst, A. Winkelmann, J. Henk, W. Wulfhekel, P. Bruno, and J. Kirschner*  
 Phys. Rev. Lett. **100**, 237203 (2008) (4 pages)  
 (Reference: **P193**)
- **Magnetic properties of fcc Ni-based transition metal alloys**  
*J. Kudrnovský, V. Drchal, and P. Bruno*  
 Phys. Rev. B **77**, 224422 (2008) (8 pages)  
 (Reference: **P192**)
- **Bilayer growth of nanoscale Co islands on Cu(111)**  
*N.N. Negulyaev, V.S. Stepanyuk, P. Bruno, L. Diekhöner, P. Wahl, and K. Kern*  
 Phys. Rev. B **77**, 125437 (2008) (7 pages)  
 (Reference: **P191**)
- **Anomalous Hall effect and Berry phase in two-dimensional magnetic structures**  
*V.K. Dugaev, J. Barnaś, M. Taillefumier, B. Canals, C. Lacroix, and P. Bruno*  
 J. Phys. : Conference Series **104**, 012018 (2008) (4 pages)  
 (Reference: **P190**)
- **Anisotropic magnetoresistance in Fe/MgO/Fe tunnel junctions**  
*M.N. Khan, J. Henk and P. Bruno*  
 J. Phys.: Condens. Matter **20**, 155208 (2008) (8 pages)  
 (Reference: **P188**)
- **Atomic-scale self-organization of Fe nanostripes on stepped Cu(111) surfaces: Molecular dynamics and kinetic Monte carlo simulations**  
*N.N. Negulyaev, V.S. Stepanyuk, W. Hergert, P. Bruno, and J. Kirschner*  
 Phys. Rev. B **77**, 085430 (2008) (9 pages)  
 (Reference: **P187**)

- **Multiple-scattering theoretical approach to scanning tunneling microscopy**  
*K.K. Saha, J. Henk, A. Ernst, and P. Bruno*  
 Phys. Rev. B **77**, 085427 (2008) (12 pages)  
 (Reference: **P187**)
- **Spin-orbit split two-dimensional electron gas with tunable Rashba and Fermi energy**  
*C.R. Ast, D. Pacilé, L. Moreschini, M.C. Falub, M. Papagno, K. Kern, M. Grioni, J. Henk, A. Ernst, S. Ostanin, and P. Bruno*  
 Phys. Rev. B **77**, 081407(R) (2008) (4pages)  
 (Reference: **P186**)
- **Role of conduction electrons in mediating exchange interactions in Mn-based Heusler alloys**  
*E. Şaşıoğlu, L.M. Sandratskii, and P. Bruno*  
 Phys. Rev. B **77**, 064417 (2008) (15 pages)  
 (Reference: **P185**)
- **Curie temperature of fcc and bcc nickel and permalloy: Supercell and Green's function methods**  
*P. Yu, X.F. Jin, J. Kudrnovský, D.S. Wang, and P. Bruno*  
 Phys. Rev. B **77**, 054431 (2008) (8 pages)  
 (Reference: **P184**)
- **Interplay between magnetism and structure in atomic-size Pd contacts: *Ab initio* studies**  
*K.M. Smelova, D.I. Bazhanov, V.S. Stepanyuk, W. Hergert, A.M. Saletsky, and P. Bruno*  
 Phys. Rev. B **77**, 033408 (2008) (4 pages)  
 (Reference: **P183**)

## 2007

- **Size-Dependent Surface States of Strained Cobalt Nanoislands on Cu(111)**  
*M.V. Rastei, B. Heinrich, L. Limot, P.A. Ignatiev, V.S. Stepanyuk, P. Bruno, and J. P. Bucher*  
 Phys. Rev. Lett. **99**, 246102 (2007) (4 pages)  
 (Reference: **P182**)
- **Structure and magnetic properties of Co chains on a stepped Cu surface**  
*Š. Pick, P.A. Ignatiev, A.L. Klavsyuk, W. Hergert, V.S. Stepanyuk, and P. Bruno*  
 J. Phys.: Condens. Matter **19** (2007) 446001 (11 pages)  
 (Reference: **P181**)
- **Interplay of electronic, magnetic and structural properties of surface-supported clusters**  
*P.A. Ignatiev, V.S. Stepanyuk, L. Niebergall, P. Bruno, and J. Berakdar*  
 Eur. Phys. J. D **45**, 547–551 (2007)  
 (Reference: **P180**)

- **Nobelpreise 2007 – Oberflächenchemie, knockout-Mäuse und magnetowiderstand**  
*H.J. Freund, P. Bruno, and C. Remyeni*  
Nachrichten aus der Chemie **55**, 1075-1078 (2007)  
(Reference: **P179**)
- **Physik-Nobelpreis 2007 – Die Entdeckung des Riesen-Magnetowiderstandes**  
**P. Bruno**  
Physik in unserer Zeit **38**, 272-273 (2007)  
(Reference: **P178**)
- **Effect of quantum confinement of surface electrons on adatom–adatom interactions**  
*V.S. Stepanyuk, N.N. Negulyaev, L. Niebergall, and P. Bruno*  
N. J. Phys. **9**, 388 (2007) (15 pages)  
(Reference: **P177**)
- **Spin-orbit splitting in an anisotropic two-dimensional electron gas**  
*J. Premper, M. Trautmann, J. Henk, and P. Bruno*  
Phys. Rev. B **76**, 073310 (2007) (4 pages)  
(Reference: **P176**)
- **Indirect exchange interaction between two local spins embedded in an Aharonov-Bohm ring**  
*Y. Utsunia, J. Martinek, H. Imamura, P. Bruno, S. Maekawa*  
J. Magn. Magn. Mater. **310**, 1142-1144 (2007)  
(Reference: **P175**)
- **Self-organized long-period adatom strings on stepped metal surfaces: Scanning tunneling microscopy, *ab initio* calculations, and kinetic Monte Carlo simulations**  
*H.F. Ding, V.S. Stepanyuk, P.A. Ignatiev, N.N. Negulyaev, L. Niebergall, M. Wasniowska, C.L. Gao, P. Bruno, and J. Kirschner*  
Phys. Rev. B **76**, 033409 (2007) (4 pages)  
(Reference: **P174**)
- **Quantization of the electron wave vector in nanostructures: Counting *k*-states**  
*G. Rodary, D. Sander, H. Liu, H. Zhao, L. Niebergall, V.S. Stepanyuk, P. Bruno, and J. Kirschner*  
Phys. Rev. B **75**, 233412 (2007) (4 pages)  
(Reference: **P173**)
- **Vacuum fluctuations and spin current in mesoscopic structures with collinear magnetic order**  
*Vitalii K. Dugaev and Patrick Bruno*  
Phys. Rev. B **75**, 201301(R) (2007) (4 pages)  
(Reference: **P172**)

- **Giant Spin Splitting through Surface Alloying**  
*Christian R. Ast, Jürgen Henk, Arthur Ernst, Luca Moreschini, Mihaela C. Falub, Daniela Pacilé, Patrick Bruno, Klaus Kern, and Marco Grioni*  
 Phys. Rev. Lett. **98**, 186807 (2007) (4 pages)  
 (Reference: **P171**)
- **Electronic confinement on stepped Cu(111) surfaces: *Ab initio* study**  
*P.A. Ignatiev, V.S. Stepanyuk, A.L. Klavsyuk, W. Hergert, and P. Bruno*  
 Phys. Rev. B **75**, 155428 (2007) (5 pages)  
 (Reference: **P170**)
- **Surface electronic states in Co nanoclusters on Au(111): Scanning tunneling spectroscopy measurements and *ab initio* calculations**  
*M. V. Rastei, J.P. Bucher, P.A. Ignatiev, V.S. Stepanyuk, and P. Bruno*  
 Phys. Rev. B **75**, 045436 (2007) (5 pages)  
 (Reference: **P169**)
- **Exchange Interaction between Single Magnetic Adatoms**  
*P. Wahl, P. Simon, L. Diekhöner, V.S. Stepanyuk, P. Bruno, M.A. Schneider, and K. Kern*  
 Phys. Rev. Lett. **98**, 056601 (2007)  
 (Reference: **P168**)
- **Mn-Stabilized Zirconia: From Imitation Diamonds to a New Potential High- $T_C$  Ferromagnetic Spintronics Material**  
*S. Ostanin, A. Ernst, L.M. Sandratskii, P. Bruno, M. Däne, I.D. Hughes, J.B. Staunton, W. Hergert, I. Mertig, and J. Kudrnovský*  
 Phys. Rev. Lett. **98**, 016101 (2007)  
 (Reference: **P167**)

## 2006

- **Adatom Self-Organization Induced by Quantum Confinement of Surface Electrons**  
*V.S. Stepanyuk, N.N. Negulyaev, L. Niebergall, R.C. Longo, and P. Bruno*  
 Phys. Rev. Lett. **97**, 186403 (2006) (4 pages)  
 (Reference: **P166**)
- **Anomalous Hall effect due to spin chirality in the Kagomé lattice**  
*M. Taillefumier, B. Canals, C. Lacroix, V.K. Dugaev, and P. Bruno*  
 Phys. Rev. B **74**, 085105 (2006) (7 pages)  
 (Reference: **P165**)
- **Effect of antiferromagnetic layers on the spin-dependent transport in magnetic tunnel junctions**  
*U. Schlickum, C.L. Gao, W. Wulfhekel, J. Henk, P. Bruno, and J. Kirschner*  
 Phys. Rev. B **74**, 054409 (2006) (6 pages)  
 (Reference: **P164**)

- **Self-organization of Ce adatoms on Ag(111): A kinetic Monte Carlo study**  
*N.N. Negulyaev, V.S. Stepanyuk, L. Niebergall, W. Hergert, H. Fangohr, and P. Bruno*  
Phys. Rev B **74**, 035421 (2006) (5 pages)  
(Reference: **P163**)
- **Topological Hall effect studied in simple models**  
*G. Metalidis and P. Bruno*  
Phys. Rev. B **74**, 045327 (2006) (7 pages)  
(Reference: **P162**)
- **Atomic relaxations and magnetic states in a single-atom tunneling junction**  
*R.Z. Huang, V.S. Stepanyuk, A.L. Klavsyuk, W. Hergert, P. Bruno, and J. Kirschner*  
Phys. Rev. B **73**, 153404 (2006) (4 pages)  
(Reference: **P161**)
- **Controlling the Spin Polarization of Nanostructures on Magnetic Substrates**  
*L. Niebergall, V.S. Stepanyuk, J. Berakdar, and P. Bruno*  
Phys. Rev. Lett. **96**, 127204 (2006) (6 pages)  
(Reference: **P160**)
- **Berry Phase, Topology, and Degeneracies in Quantum Nanomagnets**  
*P. Bruno*  
Phys. Rev. Lett. **96**, 117208 (2006) (4 pages)  
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- **Inelastic scattering effects and the Hall resistance in a four-probe ring**  
*G. Metalidis and P. Bruno*  
Phys. Rev. B **73**, 113308 (2006) (4 pages)  
(Reference: **P158**)
- **Computing conductances of tunnel junctions by the Korringa-Kohn-Rostoker method: Formulation and test of a Green function approach**  
*J. Henk, A. Ernst, K.K. Saha, and P. Bruno*  
J. Phys.: Condens. Matter **18**, 2601 – 2 614 (2006)  
(Reference: **P157**)
- **Exchange interactions and Néel temperature of a Fe monolayer on W(001): A first-principles study**  
*L. M. Sandratskii, E. Şaşioğlu, and P. Bruno*  
Phys. Rev. B **73**, 014430 (2006) (6 pages)  
(Reference: **P156**)
- **Exchange interactions in ZnMeO (Me=Mn,Fe,Co,Ni): Calculations using the frozen-magnon technique**  
*L.M. Sandratskii and P. Bruno*  
Phys. Rev. B **73**, 045203 (2006) (6 pages)  
(Reference: **P155**)

- **Long-range electronic interactions between adatoms on transition metal surfaces**  
*V.S. Stepanyuk, L. Niebergall, A.N. Baranov, W. Hergert, and P. Bruno*  
 Comput. Mat. Sci. **35**, 272–274 (2006)  
 (Reference: **P154**)

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- **Large spin effects in Coulomb blockade of Fe/MgO/Fe tunnel junctions**  
*W. Wulfhekel, A. Ernst, J. Henk, P. Bruno, J. Kirschner, F. Zavaliche, C.C. Kuo, and M.T. Lin,*  
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 (Reference: **P153**)
- **Equilibrium spin currents and the magnetoelectric effect in magnetic nanostructures**  
*P. Bruno and V.K. Dugaev*  
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 (Reference: **P152**)
- **Green's function technique for studying electron flow in two-dimensional mesoscopic samples**  
*G. Metalidis and P. Bruno*  
 Phys. Rev. B **72**, 235304 (2005) (9 pages)  
 (Reference: **P151**)
- **Exchange interactions and temperature dependence of magnetization in half-metallic Heusler alloys**  
*E. Şaşıoğlu, L.M. Sandratskii, P. Bruno, and I. Galanakis*  
 Phys. Rev. B **72**, 184414 (2005) (11 pages)  
 (Reference: **P150**)
- **Oxygen-Induced Symmetrization and Structural Coherency in Fe/MgO/Fe(001) Magnetic Tunnel Junctions**  
*C. Tusche, H.L. Meyerheim, N. Jedrecy, G. Renaud, A. Ernst, J. Henk, P. Bruno, and J. Kirschner*  
 Phys. Rev. Lett. **95**, 176101 (2005) (4 pages)  
 (Reference: **P149**)  
  
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*C. Tusche, H.L. Meyerheim, N. Jedrecy, G. Renaud, A. Ernst, J. Henk, P. Bruno, and J. Kirschner*  
 Phys. Rev. Lett. **96**, 119602 (2006) (1 page)  
 (Reference: **P149b**)
- **End electronic states in Cu chains on Cu(111): Ab initio calculations**  
*V.S. Stepanyuk, A.N. Klavsyuk, L. Niebergall, and P. Bruno*  
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 (Reference: **P148**)

- **Above-room-temperature ferromagnetism in half-metallic Heusler compounds NiCrP, NiCrSe, NiCrTe, and NiVAs: A first-principles study**  
*E. Şaşıoğlu, L.M. Sandratskii, and P. Bruno*  
 J. Appl. Phys. **98**, 063523 (2005) (6 pages)  
 (Reference: **P147**)
- **Twisted exchange interaction between localized spins in presence of Rashba spin-orbit coupling**  
*H. Imamura, P. Bruno, and Y. Utsumi*  
 AIP Conf. Proc. **772**, 1409 – 1410 (2005)  
 (Reference: **P146**)
- **Berry phase of magnons in textured ferromagnets**  
*V. K. Dugaev, P. Bruno, B. Canals, and C. Lacroix*  
 Phys. Rev. B **72**, 024456 (2005) (8pages)  
 (Reference: **P145**)
- **Anomalous Hall effect in a two-dimensional electron gas with spin-orbit interaction**  
*V.K. Dugaev, P. Bruno, M. Taillefumier, B. Canals, and C. Lacroix*  
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 (Reference: **P144**)
- **Pressure dependence of the Curie temperature in Ni<sub>2</sub>MnSn Heusler alloy: A first-principles study**  
*E. Şaşıoğlu, L.M. Sandratskii, and P. Bruno*  
 Phys. Rev. B **71**, 214412 (2005) (7 pages)  
 (Reference: **P143**)
- **Stability of ferromagnetism in the half-metallic pnictides and similar compounds: a first-principles study**  
*E. Şaşıoğlu, I. Galanakis, L.M. Sandratskii, and P. Bruno*  
 J. Phys.: Condens. Matter **17**, 3915 – 3930 (2005)  
 (Reference: **P142**)
- **Schizophrenes Eisen**  
*P. Bruno and L.M. Sandratskii*  
 Physik Journal **4**, Nr. 5, 21 – 22 (2005)  
 (Reference: **P141**)
- **Ab initio Study of Mirages and Magnetic Interactions in Quantum Corrals**  
*V.S. Stepanyuk, L. Niebergall, W. Hergert, and P. Bruno*  
 Phys. Rev. Lett. **94**, 187201 (2005)  
 (see also: “**A Mirage in a Quantum Corral**”, Max Planck Research 3/2005)  
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- **First-principles study of materials for spintronics applications**  
*L. M. Sandratskii, E. Şaşıoğlu, and P. Bruno*

Computational Modeling and Simulation of Materials III. Proceedings of the 3rd International Conference on Computational Modeling and Simulation of Materials., **43**, pp 271-282 (Eds.) Vincenzini, P. and Lami, A., Techna Group Srl, Faenza, Italy (2005)

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- **Magnetic exchange coupling and Curie temperature of  $\text{Ni}_{(1+x)}\text{MnSb}$  ( $x = 0, 0.25, 0.5, 0.75, 1$ ) from first principles**  
*E. Şaşıoğlu, L. M. Sandratskii, and P. Bruno*  
J. Magn. Magn. Mater. **290 – 291**, 385 – 387 (2005)  
(Reference: **P138**)
- **First-principles study of exchange interactions and Curie temperatures of half-metallic ferrimagnetic full Heusler alloys  $\text{Mn}_2\text{VZ}$  ( $Z = \text{Al, Ge}$ )**  
*E. Şaşıoğlu, L. M. Sandratskii, and P. Bruno*  
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(Reference: **P137**)
- **Ab initio approach for atomic relaxation in supported magnetic clusters**  
*V.S. Stepanyuk, A.L. Klavsyuk, L. Niebergall, A.M. Saletsky, W. Hergert, and P. Bruno*  
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- **Effect of the Mn clustering in (GaMn)N on the magnetic transition temperature**  
*L.M. Sandratskii, P. Bruno, and S. Mirbt*  
Phys. Rev. B **71**, 045210 (2005) (5 pages)  
(Reference: **P135**)

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*Y. Utsumi, J. Martinek, P. Bruno, J. Barnas, and S. Maekawa*  
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- **Exchange interactions and critical temperatures in diluted magnetic semiconductors**  
*J. Kudrnovský, V. Drchal, I. Turek, L. Bergqvist, O. Eriksson, G. Bouzerar, L. Sandratskii, and P. Bruno*  
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*Š. Pick, V.S. Stepanyuk, A.L. Klavsyuk, L. Niebergall, W. Hergert, J. Kirschner, and P. Bruno*  
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- **Nonquantized Dirac Monopoles and Strings in the Berry Phase of Anisotropic Spin Systems**  
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- **The influence of the clustering of Mn impurities on the magnetic properties of (GaMn)As**  
*L.M. Sandratskii and P. Bruno*  
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- **Magnetism and structure of atomic-size nanocontacts**  
*V.S. Stepanyuk, A.L. Klavsyuk, W. Hergert, A.M. Saletsky, P. Bruno, and I. Mertig*  
Phys. Rev. B **70**, 195420 (2004) (4 pages)  
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**Ph.D. Thesis**

**Anisotropie magnétique et hystérésis du cobalt à l'échelle du plan atomique :  
théorie et expérience** (in french)

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Université Paris-Sud, Orsay, France (1989)