

Curriculum vitae



Damir Pajić

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Personal data

- Born on 6 July 1974 in Virovitica (Croatia)
- Croatian Nationality
- Married, father of two children

Employment

- Higher Assistant at University of Zagreb, Faculty of Science, Department of Physics from 01.05.2008
- Assistant at University of Zagreb, Faculty of Science, Department of Physics from 01.05.2000

Education

- Primary school: 1981/82-1988/89 - Primary school Suhopolje
- Secondary school: 1989/90-1992/93 - Gymnasium Virovitica (matematics- informatics)
- Faculty: 1993/94-1998/99 - University of Zagreb, Faculty of Science, Department of Physics
- Diploma degree: 1 February 1999 with work: Quantum magnetic hysteresis of Mn_{12} -acetate
- Postgraduate study: 1999/2000 - 2008 - University of Zagreb, Faculty of Science, Department of Physics (Solid state physics), from 2003 doctoral study
- Doctoral degree: 17 March 2008 with thesis: Classical and quantum magnetic relaxation in selected nanomagnets

Participation in Scientific Projects and other Scientific Work

- "Enhancement of electromagnetic properties of MgB_2 superconductor by magnetic nanoparticle doping" (head: Prof.dr.sc. Emil Babić), Unity through knowledge fund, from 1 November 2007
- "Nanomagnets" (head: Prof.dr.sc. Krešo Zadro), Croatian Ministry of Science, Education and Sports, from 1 January 2007
- "Molecular magnets" (head: Doc.dr.sc. Krešo Zadro), Croatian Ministry of Science, Education and Sports, from 1 September 2002
- Investigation of magnetic properties of molecular magnets within the project "Electrical and Magnetic Properties of New Selected Materials" (mentor: Doc.dr.sc. Krešo Zadro, head: Prof.dr.sc. Emil Babić), Croatian Ministry of Science, Education and Sports, during diploma-work and as PhD student, 1998-2002
- Investigation of quasi-crystals using computer simulations and experimental x-ray investigation of quasi-crystals at Eötvös Lorand University in Budapest (Hungary) in the laboratory of Dr.sc. Zoltán Dankházi (1998-1999)
- Investigation of magnetic phenomena in amorphous alloys under mentorship of Prof.dr.sc. Emil Babić (1996-1998).
- Investigation of thermal conductivity of new materials at the Institute of Physics (Zagreb), Mentor: Dr.sc. Ana Smontara, (1995-1996)

Participation in Teaching

- Physics for Chemists - seminar, from 2000
- Experimental Techniques in Physics - seminar, 2000-2003 and 2008
- Practicum in Physics 3, 4, 5 2000-2004

Awards

- Award for young scientists and artists from The society of university teachers, scholars and other scientists – Zagreb, 2007.
- Award to the Best Student of Physics in 1996/97 academic year
- Prize of the Rector of the University of Zagreb for the work "Magnetization Processes in FeB Amorphous Alloy", 1995/1996
- Reward for Outstanding Achievements in Physics, XXIV International Physics Olympiad 1993, Williamsburg (Virginia, USA)
- Third prize at State Competition in Physics 1992/93
- Participation in XXIII International Physics Olympiad 1992, Helsinki (Finland)
- Second prize at State Competition in Physics 1991/92
- Second prize at State Competition in Chemistry 1991/92

Some Experiences and Skills

- Handling with equipment used in magnetic properties measurements (SQUID MPMS, VSM), magnetoresistivity measurements, cryogenic equipment and other instruments
- Using computers for data analysis, text and graphics preparation, programming in Fortran, working in Linux and knowing of MS Windows
- Languages: Croatian (native), English, German
- Different house and workshop skills, gardening, driver's license

Some of Activities

- Member of the Committee for State Competition of Scholars in Physics
- Editorial board of scientific journal Interdisciplinary Description of Complex Systems
- Organization Committee of the international workshop Describing Complex Systems 2005
- Organization of the XV International Conference for Physics Students ICPS2000, Zadar (Croatia) August 2000
- Student Exchange Coordination inside the International Association of Physics Students on the National Committee level in Croatia (1998)
- Organization of the visit to the scientific institutes in Trieste, Italy, for physics students (1998)
- Preparation of secondary school students for the international physics Olympiads
- Organization of some interdisciplinary round tables

Staying at foreign institutions

- Technical university in Vienna in Austria, laboratory for magnetic investigation, with Dr.sc. Michael Reissner and Prof.dr.sc. Wolfgang Steiner at Institute for solid state physics, 1.10.2004. - 1.11.2004.
- Eötvös Lorand University, Budapest, Hungary, laboratory for x-ray spectroscopy, with Dr.sc. Zoltán Dankházi at the Institute for solid state physics, 15. 11. 1998. - 15. 12. 1998

Membership

- Croatian Physical Society
- Society znanost.org

List of scientific papers

1. N. Novosel, D. Žilić, D. Pajić, M. Jurić, B. Perić, K. Zadro, B. Rakvin, P. Planinić, EPR and magnetization studies on single crystals of a heterometallic (Cu^{III} and Cr^{III}) complex: zero-field splitting determination, *Solid State Sciences* **10** (2008) 1387-1394
2. M. Jurić, B. Perić, N. Brničević, P. Planinić, D. Pajić, K. Zadro, G. Giester, B. Kaitner, Supramolecular motifs and solvatomorphism within the compounds [M(bpy)₃]₂[NbO(C₂O₄)₃]Cl nH₂O (M = Fe²⁺, Co²⁺, Ni²⁺, Cu²⁺ and Zn²⁺; n = 11, 12). Syntheses, structures and magnetic properties, *Dalton Transactions* **2008** (2008) 742-754
3. D. Pajić, K. Zadro, R. Ristić, I. Živković, Ž. Skoko, E. Babić, Thermal relaxation of magnetic clusters in amorphous Hf₅₇Fe₄₃ alloy, *Journal of Physics: Condensed Matter* **19** (2007) 296207 (16pp)
4. A.T. Raghavender, D. Pajić, K. Zadro, T. Mileković, P. V. Rao, K.M. Jadhav, D. Ravinder, Synthesis and magnetic properties of NiFe_{2-x}Al_xO₄ nanoparticles, *Journal of Magnetism and Magnetic Materials* **316** (2007) 1-7
5. I. Živković, D. Pajić, K. Zadro, Low temperature magnetic transition in RuSr₂EuCeCu₂O₁₀ ruthenocuprate, *Physica C* **452** (2007) 16-20
6. M. Jurić, B. Perić, N. Brničević, P. Planinić, D. Pajić, K. Zadro, G. Giester, Structure, stacking interactions and magnetism of compounds with oxalate-bridged dinuclear Cu^{II}Cu^{II} and Cu^{II}Nb^V units, *Polyhedron* **26** (2007) 659-672
7. M. Jurić, P. Planinić, N. Brničević, D. Milić, D. Matković-Čalogović, D. Pajić, K. Zadro, New Heterometallic (Cu^{II} and Cr^{III}) Complexes – First Crystal Structure of an Oxalate-Bridged Ferromagnetically Coupled [Cu^{II}Cr^{III}Cu^{II}] System, *European Journal of Inorganic Chemistry* **2006** (2006) 2701-2710
8. M. Reissner, J. Beiter, D. Pajić, K. Zadro, G. Hilscher, W. Steiner, On the Temperature Dependence of Magnetic Relaxation in Mn₁₂-acetat Around the Blocking Temperature, *AIP Conference Proceedings* **850** (2006) 1135-1136
9. A.M. Madalan, V.Ch. Kravtsov, D. Pajić, K. Zadro, Y.A. Simonov, N. Stanica, L. Ouahab, J. Lipkowski, M. Andruh, Chemistry at the apical position of square-pyramidal copper(II) complexes: synthesis, crystal structures, and magnetic properties of mononuclear Cu(II), and heteronuclear Cu(II)-Hg(II) and Cu(II)-Co(II) complexes containing [Cu(AA)(BB)]⁺ moieties (AA=acetylacetonate, salicylaldehydate; BB=1,10-phenanthroline, Me₂bipy=4,4'-dimethyl-2,2'-bipyridine), *Inorganica Chimica Acta* **357** (2004) 4151-4164
10. D. Pajić, K. Zadro, R. Vandenberghe, I. Nedkov, Superparamagnetic relaxation in Cu_xFe_{3-x}O₄ (x=0.5 and x=1) nanoparticles, *Journal of Magnetism and Magnetic Materials* **281** (2004) 353-363
11. M. Grgec-Pajić, J. Stepanić, D. Pajić, Musical Composition and Elementary Excitations of the Environment, *Interdisciplinary Description of Complex Systems* **1** (2003) 22-28
12. D. Pajić, K. Zadro, T. Friščić, N. Judaš, E. Meštrović, Magnetic Relaxation in Mn₁₂-methanoate Molecular Magnet, *Journal of Magnetism and Magnetic Materials* **242-245** (2002) 946-948

13. D. Pajić, K. Zadro, T. Friščić, N. Judaš, E. Meštrović
Thermal Relaxation and Quantum Tunnelling of the Magnetization in Mn_{12} -acetate,
FIZIKA A **8** (1999) 253-260
14. M. Kolanović and D. Pajić
The Influence of Domain Structure on the Variation of Coercive Field and Maximum
Magnetization of $Fe_{77.5}B_{22.5}$ Amorphous Alloy,
FIZIKA A **5** (1996) 133-140
15. K. Biljaković, A. Smontara, D. Starešinić, D. Pajić, M. E. Kozlov, M. Hirabayashi, M.
Tokumoto and H. Ihara,
Thermal Transport in Hard Carbon Prepared from C_{60} Fullerene,
Journal of Physics: Condensed Matter **8** (1996) L27-L32
16. A. Smontara, K. Biljaković, D. Starešinić, D. Pajić, M. E. Kozlov, M. Hirabayashi, M.
Tokumoto and H. Ihara,
Thermal Conductivity of Hard Carbon Prepared from C_{60} Fullerene,
Physica B **219-220** (1996) 160-162

Other scientific texts

1. Doctoral thesis: Classical and quantum magnetic relaxation in selected nanomagnets,
University of Zagreb, Faculty of Science, Department of Physics, 17 March 2008
2. Diploma work: Quantum magnetic hysteresis of Mn_{12} -acetate, University of Zagreb, Faculty
of Science, Department of Physics, 1 February 1999

Participation in scientific conferences

1. D. Pajić, K. Zadro, N. Novosel,
poster: Classical and quantum magnetic relaxation in nanomagnets,
Fifth scientific meeting of Croatian Physical Society, Primošten (Croatia) 5-8 October 2007
2. *The 1st Croatian Synchrotron Radiation Summer School - SynCro'07*, Rijeka (Croatia) 3-7
September 2007
3. D. Pajić, K. Zadro,
poster: Exchange bias in $Cu_xFe_{3-x}O_4$ nanoparticles
Third Seeheim Conference on Magnetism, Frankfurt (Germany) 26-30 August 2007
4. D. Pajić, K. Zadro,
Poster
Gordon Research Conference on Magnetic Nanostructures, Queen's College, Oxford (United
Kingdom) 2-8 September 2006
5. *On the present Status of Quantum Mechanics*, V International Conference on Science, Art
and Culture, Mali Lošinj (Croatia) 6-10 September 2005
6. D. Pajić, K. Zadro,
poster: Superparamagnetism of Magnetic Nano-Clusters in Hf-Fe Amorphous Alloy,
Conference on Single Molecule Magnets and Hybrid Magnetic Nanostructures, ICTP,
Trieste (Italy) 27 Jun - 1 July 2005
7. *Describing Complex Systems 2005*, Zagreb (Croatia) 26-29 May 2005
8. D. Pajić, K. Zadro,
poster: Classical and quantum magnetic relaxation in single molecule magnet Mn_{12} ,
Workshop on the Quantum Systems out of Equilibrium, ICTP, Trieste (Italy) 14-25 Jun 2004
9. D. Pajić, K. Zadro, I. Nedkov,
poster: Magnetic relaxation in $Cu_xFe_{3-x}O_4$ nanoparticles ($x=0, 0.5, 1$),

- Fourth scientific meeting of Croatian Physical Society, Zagreb (Croatia) 13-15 November 2003*
10. *The Science and Technology of Spin Transport in Nanostructures*, ICTP, Trieste (Italy) 19-23 August 2002
11. D. Pajić,
invited talk: Single Molecule Magnets - New Class of Magnetic Materials,
17th Workshop on New Materials and Superconductors, Plannersalm (Austria) 24 February -2 March 2002
12. D. Pajić, K. Zadro, T. Frišćić N. Judaš, E. Meštrović,
poster: Magnetic relaxation in Mn₁₂-methanoate and other molecular magnets,
Third scientific meeting of Croatian Physical Society, Zagreb (Croatia) 5-7 December 2001
13. D. Pajić, K. Zadro, T. Frišćić N. Judaš, E. Meštrović,
poster: Magnetic Relaxation in Mn₁₂-methanoate Molecular Magnet
Joint European Magnetic Symposia, CNRS, Grenoble (France) 28 August-1 September 2001
14. *The Second Stig Lundqvist Research Conference on the Advancing Frontiers in Condensed Matter Physics: "Non-Conventional Systems and New Directions"*, ICTP, Trieste (Italy) 2-6 July 2001

Participation in other conferences

1. D. Pajić (invited talk),
Quantum physics emerging in nanomagnets,
Science Festival, Gymnasium of Petar Preradović, Virovitica (Croatia) 21-23 April 2005
2. D. Pajić,
talk: The Influence of the Domain Structure on the Processes of Magnetization of Fe_{77.5}B_{22.5}
Amorphous Alloy,
XIII International Conference for Physics Students, Coimbra (Portugal) 9-16 August 1998
3. D. Pajić,
talk: Quasicrystals - Aperiodic, Long-range Ordered, Self-similar Structures,
XII International Conference for Physics Students, Wien (Austria) August 1997

Other texts

1. Ten of texts in daily and weekly newspapers
2. D. Pajić, The wizards of the magnets, *The journal of the international Association of Physics Students* 7 (1999) 4-5

Damir Pajić

In Zagreb, on 22 October 2008