

**Assoc. Prof. RNDr. Erik Čižmár, Ph.D.**

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Current position(s):

Senior Researcher

Profile:

Assoc. Prof. E. Čižmár, Ph.D. – his interest is focused on low-dimensional magnets with exchange coupling anisotropy, molecular magnets, and partially, on study of defect-induced magnetism in various materials. He participated in the design of multi-frequency EPR spectrometer at the Dresden High Magnetic Field Laboratory, Dresden, Germany, after return to UPJŠ he is the head of EPR laboratory. He has experience in very low temperature experimental techniques of magnetic and thermodynamic measurements, he introduced ac susceptibility measurements in mK-temperature range in our laboratory and he has also an experience with ab initio calculation of electronic structure using ORCA package.

He is co-author of 110 CC papers with more than 650 SCI citations. He was awarded Young Scientist of the Slovak Physical Society Prize (2. place – 2006, 1. place - 20025). During the period 2016-2018 he is the member of the User's Committee of NHMFL, Tallahassee, FL, USA, in the section of electron magnetic resonance (the committee represents the advisory board of the director of NHMFL).

Experience:

2008 – now	P.J. Šafárik University in Košice
2006-2008	Dresden High Magnetic Field Laboratory, Forschungszentrum Dresden-Rossendorf, Dresden, Germany
2003-2006	P.J. Šafárik University in Košice
2003-2003	University of Florida, Gainesville, FL, USA
2000-2002	P.J. Šafárik University in Košice

Organisation of Scientific Meetings:**Projects:**

(najviac 5 najvýznamnejších projektov, ktoré pracovník viedol, resp. spolupracoval na ich vedení):

1. Research centre of progressive materials and technology for current and future applications "PROMATECH", ŠF 26220220186, 2013-2015 – project manager at UPJŠ in Košice, project supported in 2007-2013 by ERDF EU
2. Experimental study of spin cluster systems, VEGA 1/0145/13 – principal investigator, 2013-2016
3. Influence of the magnetic field on quantum processes in geometrically frustrated magnets, VEGA 1/0058/07, co-PI, 2009-2012

Five representative publications:

Researcher ID (in SCOPUS): **6602593645**

1. E. Čižmár, M. Ozerov, J. Wosnitza, B. Thielemann, K.W. Krämer, Ch. Rugg, O. Piovesana, M. Klanjšek, M. Horvatić, C. Berthier, S.A. Zvyagin: Anisotropy of Magnetic Interactions in the Spin-Ladder Compound (C₅H₁₂N)₂CuBr₄, Phys. Rev. B 82 (2010) 0544312.
2. S. Zhou, E. Čižmár, K. Potzger, M. Krause, T. Talut, M. Helm, J. Fassbender, S.A. Zvyagin, J. Wosnitza, H. Schmidt: Origin of magnetic moments in defective TiO₂ single crystals, Phys. Rev. B 79 (2009) 113201.

3. S.A. Zvyagin, M. Ozerov, **E. Čížmár**, D. Kamenskyi, S. Zherlitsyn, T. Herrmannsdörfer, J. Wosnitza, R. Wunsch, W. Seidel: Terahertz-range free-electron laser electron spin resonance spectroscopy: Techniques and applications in high magnetic fields, Rev. Sci. Instr. 80 (2009) 073102.

4. M. Orendáč, J. Hanko, **E. Čížmár**, A. Orendáčová, M. Shirai, S.T. Bramwell: Magnetocaloric study of spin relaxation in dipolar spin ice Dy₂Ti₂O₇, Phys. Rev. B 75 (2007) 104425.

5. J.D.M. Champion, M.J. Harris, P.C.W. Holdsworth, A.S. Wills, G. Balakrishnan, S.T. Bramwell, **E. Čížmár**, T. Fennell, J.S. Gardner, J. Lago, D.F. McMorrow, M. Orendáč, A. Orendáčová, D.M. Paul, R.I. Smith, M.T.F. Telling, A. Wildes: Er₂Ti₂O₇: Evidence of quantum order by disorder in a frustrated antiferromagnet, Phys. Rev. B 68 (2003) 020401.

Patents:

Fellowships / Awards / Memberships of Scientific Societies:

2016 – 2018 member of the User's Committee of NHMFL, Tallahassee, FL, USA, advisory board of the NHMFL director, Electron Magnetic Resonance section