

Dr. MARIIA PASHCHENKO

- Date of birth: 25 November 1984 (Kharkiv, Ukraine)
- Email: pashchenko@fzu.cz

Affiliation and address

Institute of Physics of the Czech Academy of Sciences,
Department of Magnetism and Superconductivity
Cukrovarnická 10/112, 162 00 Prague 6, Czech Republic

Skills & Expertise

Magnetic and Magneto-optical properties of bulks, nanoparticles and crystals, Experimental Physics, Phase Transitions, Magnetic Materials and Magnetism, Low Temperature Physics, ESR, IR and Raman Spectroscopy, AFM

Experimental techniques & Software

Magnetization (SQUID, PPMS), Magnetic fields (0-14T), Low temperature experiment (2-300K), Magneto-optical techniques, IR Spectroscopy, Raman Spectroscopy (WiTEc, Horiba), LaTeX, MatCad, MatLab/Octave, Origin.

Language English (fluent), Czech (intermediate), Ukrainian and Russian (native)

Publications 15 articles in the peer-reviewed journals

ORCID: 0000-0003-2789-051X ; **Scopus Author ID:** 36891437100

Conferences more than 30 conference abstract publications

Education

- **April 2015** **PhD** thesis defense at Institute for Low Temperature Physics and Engineering of NAS of Ukraine. "Magneto-optical and magnetic properties of rare-earth borates $TbFe_3(BO_3)_4$, $TbAl_3(BO_3)_4$, $NdFe_3(BO_3)_4$ " under supervision of Dr. Volodymyr Bedarev.
- **June 2006** **Master's degree** with honors, Department of Physics, V.N. Karazin Kharkiv National University, Ukraine. Diploma thesis "Influence of light on magnetic properties of manganite film $Pr_{0.6}La_{0.1}Ca_{0.3}MnO_3$ " Supervisor Dr. Bedarev V.A.
- **July 2005** **Bachelor's degree** with honors, Department of Physics, V.N. Karazin Kharkiv National University, Ukraine. Diploma thesis "Influence of light on transport properties of manganite film $Pr_{0.6}La_{0.1}Ca_{0.3}MnO_3$ " Supervisor Dr. Bedarev V.A.

Career and Employments

Nov 2016 – till present	Post-Doctoral Fellow at the Institute of Physics of the Czech Academy of Sciences, Czech Republic
Feb 2017 – Oct 2017	Post-Doctoral researcher at Charles University in Prague, Faculty of Mathematics and Physics, Czech Republic
Feb 2016 – Oct 2016	Researcher at the Institute for Low Temperature Physics and Engineering of NASU, Ukraine
Nov 2011 – Jan 2016	Junior Researcher at the Institute for Low Temperature Physics and Engineering of NASU, Ukraine
Nov 2008 - Oct 2011	PhD student at ILTPE NASU, Ukraine
July 2006 - Oct 2008	Engineer at ILTPE NASU, Ukraine

List of Publications 2007-2019

1. P. Veverka, M. Pashchenko, L. Kubičková, J. Kuličková, Z. Jiráček, R. Havelek, K. Královec, J. Kohout, J., O.Kaman, *Rod-like particles of silica-coated maghemite: Synthesis via akaganeite, characterization and biological properties*, **Journal of Magnetism and Magnetic Materials** **2019**, 476, p.149-156.
2. K. Knížek, M. Pashchenko, P. Levinský, O. Kaman, J. Houdková, P. Jiříček, J. Hejtmánek, M. Soroka, J. Buršík, *Spin Seebeck effect in ϵ -Fe₂O₃ thin films with high coercive field*, **Journal of Applied Physics** **2018**, 124, Article number 213904.
3. O. Kaman, V. Herynek, P. Veverka, L. Kubičková, M. Pashchenko, J. Kuličková, Z. Jiráček, *Transverse Relaxivity of Nanoparticle Contrast Agents for MRI: Different Magnetic Cores and Coatings*, **IEEE Transactions on Magnetics** **2018**, 54(11), 5300405.
4. M.I. Pashchenko, V.A. Bedarev, D.M. Merenkov, O.M. Bludov, V.O. Pashchenko, S.L. Gnatchenko, T. Zajarniuk, A. Szewczyk, L.N. Bezmaternykh and V. L. Temerov, *Rotating magnetocaloric effect in the TbAl₃(BO₃)₄ borate*. **Low Temperature Physics** **2017**, v.43, p.789–794.
5. V.A. Bedarev, D.N. Merenkov, M.I. Pashchenko, S.L. Gnatchenko, I.A. Gudim, L.N. Bezmaternykh, V.L. Temerov, *The Pockels effect in TmAl₃(BO₃)₄*. **Ferroelectrics** **2017**, v.506, p.152-158.
6. M.I. Pashchenko, V.A. Bedarev, D.N. Merenkov, S.L. Gnatchenko, L.N. Bezmaternykh, A.L. Sukhachev, V.L. Temerov: *Electric-field-induced linear birefringence in TmAl₃(BO₃)₄*. **Applied Optics** **2016**, v.55, p.B11-B13.
7. V.A. Bedarev, M.I. Pashchenko, M.I. Kobets, K.G. Dergachev, E.N. Khatsko, S.L. Gnatchenko, A.A. Zvyagin, T. Zajarniuk, A. Szewczyk, M.U. Gutowska, L.N. Bezmaternykh, V.L. Temerov: *Low-temperature magnetic phase transition in aluminium borate TbAl₃(BO₃)₄*. **Low Temperature Physics** **2015**, v.41, p.687-690.
8. M.I. Pashchenko, V.A. Bedarev, D.N. Merenkov, Yu.O. Savina, V.O. Pashchenko, S.L. Gnatchenko, L.N. Bezmaternykh, V.L. Temerov: *Magneto-optical properties of terbium iron borate*. **Applied Optics** **2014**, v.53, p.B116-B120.
9. V.A. Bedarev, M.I. Pashchenko, D.N. Merenkov, Yu.O. Savina, V.O. Pashchenko, S.L. Gnatchenko, L.N. Bezmaternykh, V.L. Temerov: *The Faraday effect in TbFe₃(BO₃)₄ and TbAl₃(BO₃)₄ borates*. **Journal of Magnetism and Magnetic Materials** **2014**, v.362, p.150-153.
10. V.A. Bedarev, M.I. Pashchenko, M.I. Kobets, K.G. Dergachev, V.A. Pashchenko, A.N. Bludov, E.N. Khatsko, S.L. Gnatchenko, L.N. Bezmaternykh, V.L. Temerov: *Magnetoacoustic resonance properties of antiferromagnetic TbFe₃(BO₃)₄ at low temperatures*. **Low Temperature Physics** **2013**, v.39, p.219-224.
11. V.A. Bedarev, M.I. Pashchenko, D.N. Merenkov, L.N. Bezmaternykh, V.L. Temerov: *Magnetoacoustic Study of Spin-Orientation Phase Transition in NdFe₃(BO₃)₄ Single Crystal*. **Ukrainian Physical Journal** **2012**, v.57, p.650-654.
12. S.L. Gnatchenko, I.S. Kachur, V.G. Piryatinskaya, V.A. Bedarev, M.I. Pashchenko, A.V. Malakhovskii, L.N. Bezmaternykh, A.L. Sukhachev, V.L. Temerov: *Spectroscopic and magnetoacoustic investigations of spin-reorientation phase transition in TbFe₃(BO₃)₄*. **Low Temperature Physics** **2011**, v.37, p.871-878.
13. V.A. Bedarev, M.I. Pashchenko, A.N. Bludov, S.L. Gnatchenko, L.N. Bezmaternykh, V.L. Temerov: *Magnetic field-induced rotation of the plane of polarization of light in the antiferromagnetic ferroborate TbFe₃(BO₃)₄*. **Low Temperature Physics** **2011**, v.37, p.598-602.
14. M.I. Pashchenko, V.A. Bedarev, V.I. Kut'ko, L.N. Besmaternykh, V.L. Temerov: *IR active vibrations of a TbFe₃(BO₃)₄ crystal*. **Low Temperature Physics** **2010**, v.36, p.638-641.
15. V. Gnezdilov, V. Bedarev, S. Gnatchenko, M. Pashchenko, Yu. Pashkevich, P. Lemmens, S. Zvyagin, X. Mo, W. Queen, S.-J. Hwu: *Structural phase transition in two-dimensional tetramer-cuprate Na₅RbCu₄(AsO₄)₄Cl₂*. **Low Temperature Physics** **2007**, v.33, p.897-901.