

Yaroslav Bazaliy

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Education

Moscow Physics and Technology Institute Moscow, USSR	Radio Physics	M.S. 1988
Kapitza Institute for Physical Problems Moscow, Russian Federation	Low Temperature Physics	Kandidat Nauk 1992
Stanford University, Stanford, CA	Physics	Ph.D. 2001
National Academy of Sciences, Ukraine	Theoretical Physics	Habilitation 2009

Appointments

University of South Carolina Department of Physics and Astronomy, Associate Professor	2006-present
Leiden University, The Netherlands Instituut Lorentz, Visiting Researcher	2006-2007
IBM Almaden Research Center Postdoctoral Researcher	2004-2006
Argonne National Laboratory Postdoctoral Researcher	2000-2003

Awards

NSF CAREER Award	2009-2016
University of South Carolina Rising Star Award	2011
Puliuy Prize, National Academy of Sciences of Ukraine	2008

Selected Publications

- Ya. B. Bazaliy and R.R. Ramazashvili, "Reciprocity in diffusive spin-current circuits", Phys. Rev. B 99, 184443 (2019).
- Ya. B. Bazaliy and R. R. Ramazashvili, "Local injection of pure spin current generates electric current vortices", Appl. Phys. Lett. 110, 092405 (2017).
- Shu Yan and Ya. B. Bazaliy, "Phase diagram and optimal switching induced by spin Hall effect in a perpendicular magnetic layer", Phys. Rev. B 91, 214424 (2015).
- Ya. B. Bazaliy, "Comment on "Metastable state in a shape-anisotropic single-domain nanomagnet subjected to spin-transfer-torque" [Appl. Phys. Lett. 101, 162405 (2012)]", Appl. Phys. Lett. 105, 116101 (2014).
- Shu Yan, Zhelin Sun, and Ya. B. Bazaliy, "Modification of the Stoner-Wohlfarth astroid by a spin-polarized current: An exact solution", Phys. Rev. B 88, 054408 (2013).

- R. Moriya, L. Thomas, M. Hayashi, Ya. B. Bazaliy, C. Rettner, and S. S. P. Parkin, “Probing vortex-core dynamics using current-induced resonant excitation of a trapped domain wall”, *Nature Physics* 4, 368 (2008).
- O. A. Tretiakov, D. Clarke, G.-W. Chern, Ya. B. Bazaliy, O. Tchernyshyov, “Dynamics of domain walls in magnetic nanostrips”, *Phys. Rev. Lett.* 100, 127204 (2008).
- Ya. B. Bazaliy, “Effective attraction induced by repulsive interaction in a spin-transfer system”, *Appl. Phys. Lett.* 91, 262510 (2007).
- M. Hayashi, Luc Thomas, C. Rettner, Rai Moriya, Ya. B. Bazaliy, and S. S. P. Parkin, “Current Driven Domain Wall Velocities Exceeding the Spin Angular Momentum Transfer Rate in Permalloy Nanowires”, *Phys. Rev. Lett.* 98, 037204 (2007).

Invited Presentations and Colloquia

- 06/19 Low-dimensional emergent phenomena in correlated systems and topological quantum matter, Tbilisi, Republic of Georgia
- 05/19 Institute of Higher Technologies, Kyiv National University, Kyiv, Ukraine
- 09/17 Augusta University, Augusta, GA
- 07/17 MagIC-2017 – Magnetism, Interactions and Complexity. Poznan, Poland.
- 05/17 University of Basque Country, Department of Physical Chemistry. Bilbao, Spain.
- 10/16 Nano Quantum Transport conference. Kyiv, Ukraine.
- 10/15 Laboratoire de Physique Theorique, IRSAMC, Universite Paul Sabatier, Toulouse, France.
- 05/15 Institute of Physics, Chinese Academy of Science, Beijing, China.

Synergistic Activities:

- Referee: *Nature Physics*, *Physical Review Letters*, *Physical Review B*, *Physical Review Applied*, *Physical Review X*, *Applied Physics Letters*, *Journal of Applied Physics*, *AIP Advances*, *Applied Physics Express*, *Journal of Physics A,D,C*, *Scientific Reports*, *Journal of Magnetism and Magnetic Materials*, *IEEE Transactions on Magnetics*, *Chaos*, *New Journal of Physics*, *Nano Letters*, *Nanoscale*, *Nanotechnology*, *Annals of Physics*, *European Physics Journal B*, *Materials Research Bulletin*, *Solid State Communications*, *Thin Solid Films*.
- Proposal reviewer: NSF, Austrian Science Fund (FWF), ANR France.
- Member of the Advisory Board, *Journal of Physics D*, 2015 – present
- Outstanding Reviewer Award, *Journal of Physics Condensed Matter*, 2016
- Outstanding Referee Award by *Physical Review*, 2019
- Organizing Committee Member for “Magnonics 2018” School and Conference

Current collaborators

- R. Ramazashvili, Université Paul Sabatier, CNRS, Toulouse, France
- O. Kolezhuk, Institute of Magnetism, National Academy of Science, Kyiv, Ukraine

Former Students:

- Inti Sodemann (now a Junior Group Leader, Max Planck Institute, Dresden)