

Федеральное государственное бюджетное образовательное учреждение высшего образования «Саратовский национальный исследовательский государственный университет имени Н.Г. Чернышевского»

Список работ по теме диссертации:

1. V. A. Gubanov, V. V. Kruglyak, S. E. Sheshukova, V. D. Bessonov, S. A. Nikitov, and A. V. Sadovnikov Frequency-selective spin-wave propagation in magnonic waveguide with a local laser-heated region Phys. Rev. B 107, 024427 (2023) doi:10.1103/PhysRevB.107.024427
2. Martyshkin, A. A., S. A. Nikitov, and A. V. Sadovnikov. 3D Magnonic Structures as Interconnection Element in Magnonic Networks. Fundamentals of Low Dimensional Magnets. CRC Press, 93-109 (2023).
3. A.A. Martyshkin, C.S. Davies, and A.V. Sadovnikov Magnonic Interconnections: Spin-Wave Propagation across Two-Dimensional and Three-Dimensional Junctions between Yttrium Iron Garnet Magnonic Stripes Phys. Rev. Applied 18, 064093 (2022) doi:10.1103/PhysRevApplied.18.064093
4. Dorokhin, Mikhail V., et al. Manipulation of micromagnetic structure of thin Co/Pt multilayer films by precise variation of Co and Pt thicknesses. Journal of Alloys and Compounds 926 166956 (2022). doi:10.1016/j.jallcom.2022.166956
5. Tikhonov, Vladimir Vasilievich, et al. Spin-wave diagnostics of ultrathin ferrite films. Journal of Magnetism and Magnetic Materials 562 169763 (2022). doi:10.1016/j.jmmm.2022.169763
6. Gerus, S. V., et al. Diffraction of a Backward Volume Spin Wave on a Through Hole in a Ferrite Plate. Bulletin of the Russian Academy of Sciences: Physics 86.11 1361-1365 (2022).
7. Beginin, E. N., and A. V. Sadovnikov. Nonreciprocal Character of a Spin-Wave Signal in a Structure Consisting of Coupled Fabry–Pérot Interferometers with Metallized and Semiconductor Loads on Shoulders Taken Individually. Bulletin of the Russian Academy of Sciences: Physics 86.11 1366-1370 (2022).
8. Gubbiotti, G., et al. Spin-wave nonreciprocity and formation of lateral standing spin waves in CoFeB/Ta/NiFe meander-shaped films. Journal of Applied Physics 132.8 083902 (2022). doi:10.1063/5.0102010
9. Alexander V. Sadovnikov, Alexander A. Zyablovsky, Alexander V. Dorofeenko, and Sergey A. Nikitov Exceptional-Point Phase Transition in Coupled Magnonic Waveguides Phys. Rev. Applied 18, 024073 (2022) doi:10.1103/PhysRevApplied.18.024073
10. Grachev, Andrey A., Alexandr V. Sadovnikov, and Sergey A. Nikitov. Strain-Tuned Spin-Wave Interference in Micro-and Nanoscale Magnonic Interferometers. Nanomaterials 12.9 1520 (2022). doi:10.3390/nano12091520
11. Morozova, M. A., et al. Nonlinear signal processing with magnonic superlattice with two periods. Applied Physics Letters 120.12 122407 (2022). doi:10.1063/5.0083133
12. Odintsov, S. A., et al. Nonreciprocal spin wave propagation in bilayer magnonic waveguide. Journal of Magnetism and Magnetic Materials 546 168736 (2022). doi:10.1016/j.jmmm.2021.168736
13. Sakharov, Valentin, et al. Spin wave filtration by resonances in the sidewalls of corrugated yttrium-iron garnet films. Journal of Magnetism and Magnetic Materials 545 168786 (2022). doi:10.1016/j.jmmm.2021.168786

14. Sadovnikov, A. V., et al. Reconfigurable 3D magnonic crystal: Tunable and localized spin-wave excitations in CoFeB meander-shaped film. *Journal of Magnetism and Magnetic Materials* 544 168670 (2022). [doi:10.1016/j.jmmm.2021.168670](https://doi.org/10.1016/j.jmmm.2021.168670)
15. A. V. Chumak et al., *Advances in Magnetism Roadmap on Spin-Wave Computing*, *IEEE Transactions on Magnetics*, 58, 6, 1-72 (2022). [doi:10.1109/TMAG.2022.3149664](https://doi.org/10.1109/TMAG.2022.3149664)
16. Bakhmet'ev, M.V., Gubanov, V.A., Sadovnikov, A.V. et al. Spin-Wave Excitations in NiFe/Cu/IrMn Heterostructures with a Variable Thickness Copper Spacer. *J. Exp. Theor. Phys.* 134, 204–210 (2022). [doi:10.1134/S1063776122020017](https://doi.org/10.1134/S1063776122020017)
17. M. V. Sapozhnikov, R. V. Gorev, E. V. Skorokhodov, N. S. Gusev, A. V. Sadovnikov, and O. G. Udalov Zigzag domains caused by strain-induced anisotropy of the Dzyaloshinskii-Moriya interaction *Phys. Rev. B* 105, 024405 (2022). [doi:10.1103/PhysRevB.105.024405](https://doi.org/10.1103/PhysRevB.105.024405)
18. M. D. Amel'chenko, A. S. Bir, F. Yu. Ogrin, S. A. Odintsov, D. V. Romanenko, A. V. Sadovnikov, S. A. Nikitov, S. V. Grishin, Magnetic metasurfaces with metallic inclusions, *Izvestiya VUZ. Applied Nonlinear Dynamics*, 30:5, 563–591 (2022). [doi:10.18500/0869-6632-003007](https://doi.org/10.18500/0869-6632-003007)
19. Koplak, Oksana, et al. Dzyaloshinskii–Moriya interaction determined from spin wave nonreciprocity and magnetic bubble asymmetry in Pt/Co/Ir/Co/Pt synthetic ferrimagnets. *Journal of Physics: Condensed Matter* 34.8 085803 (2021). [doi:10.1088/1361-648X/ac3c0a](https://doi.org/10.1088/1361-648X/ac3c0a)
20. Bakhmetiev, Maxim, et al. Modulation of interfacial magnetic relaxation timeframes by partially uncoupled exchange bias. *Journal of Physics D: Applied Physics* 55.10 105001 (2021). [doi:10.1088/1361-6463/ac3ce7](https://doi.org/10.1088/1361-6463/ac3ce7)
21. Grishin, Sergei V., et al. Space-quasiperiodic and time-chaotic parametric patterns in a magnonic quasicrystal active ring resonator. *Physical Review Applied* 16.5 054029 (2021). [doi:10.1103/PhysRevApplied.16.054029](https://doi.org/10.1103/PhysRevApplied.16.054029)
22. Khutieva, A.B., Sadovnikov, A.V., Annenkov, A.Y. et al. Diffraction of the Superdirectional Beam of a Surface Spin Wave on a Low-Contrast Magnon Crystal. *Bull. Russ. Acad. Sci. Phys.* 85, 1205–1208 (2021). [doi:10.3103/S1062873821110150](https://doi.org/10.3103/S1062873821110150)
23. Tikhonov, V.V., Gubanov, V.A. & Sadovnikov, A.V. Magnon–Phonon Interaction in the Transition Layer of an Epitaxial YIG Film. *Phys. Solid State* 63, 1569–1573 (2021). [doi:10.1134/S1063783421090420](https://doi.org/10.1134/S1063783421090420)
24. Gusev, N.S., Dudin, Y.A., Sadovnikov, A.V. et al. Modification of the Interfacial Dzyaloshinskii–Moriya Interaction in Cobalt/Heavy Metal Films Irradiated with Helium Ions. *Phys. Solid State* 63, 1373–1377 (2021). [doi:10.1134/S1063783421090110](https://doi.org/10.1134/S1063783421090110)
25. Gubanov, V.A., Sheshukova, S.E. & Sadovnikov, A.V. Lateral Spin-Wave Transport in a System of Nonidentical Magnonic-Crystal Microwave Guides. *Phys. Solid State* 63, 1361–1365 (2021). [doi:10.1134/S1063783421090080](https://doi.org/10.1134/S1063783421090080)
26. Grachev, A.A., Beginin, E.N., Sheshukova, S.E. et al. Electric-Field-Controlled Spin-Wave Coupling in Lateral Ensembles of Magnetic Microstructures. *Phys. Solid State* 63, 1356–1360 (2021). [doi:10.1134/S1063783421090079](https://doi.org/10.1134/S1063783421090079)
27. Barman, Anjan, et al. The 2021 magnonics roadmap. *Journal of Physics: Condensed Matter* 33.41 413001 (2021). [doi:10.1088/1361-648X/abec1a](https://doi.org/10.1088/1361-648X/abec1a)
28. Noginova, N., Gubanov, V., Shahabuddin, M. et al. Ferromagnetic Resonance in Permalloy Metasurfaces. *Appl Magn Reson* 52, 749–758 (2021). [doi:10.1007/s00723-021-01347-w](https://doi.org/10.1007/s00723-021-01347-w)

29. Grachev, A. A., et al. Strain-mediated tunability of spin-wave spectra in the adjacent magnonic crystal stripes with piezoelectric layer. *Applied Physics Letters* 118.26 262405 (2021). [doi:10.1063/5.0051429](https://doi.org/10.1063/5.0051429)
30. Grachev, A. A., et al. Tunable Fano Resonances in Irregular Magnonic Structure. *IEEE Transactions on Magnetics* 58.2 1-5 (2021). doi:10.1109/TMAG.2021.3089051
31. Kolmychek, I. A., et al. Interface-induced optical effects in magnetic two-and three-layer films. *Journal of Magnetism and Magnetic Materials* 528 167780 (2021). [doi:10.1016/j.jmmm.2021.167780](https://doi.org/10.1016/j.jmmm.2021.167780)
32. Odintsov, Sergey A., et al. Tunable Spin Wave Propagation in YIG/Fe-Rh Stripe. *IEEE Transactions on Magnetics* 58.2 1-4 (2021). doi:10.1109/TMAG.2021.3085402
33. Sadovnikov, A.V., Nikitov, S.A. Using Mandelstam–Brillouin Spectroscopy to Study Energy-Efficient Devices for Processing Information Signals on the Basis of Magnon Straintronics. *Bull. Russ. Acad. Sci. Phys.* 85, 595–598 (2021). doi:10.3103/S1062873821060216
34. Gubbiotti, Gianluca, et al. Magnonic band structure in CoFeB/Ta/NiFe meander-shaped magnetic bilayers. *Applied Physics Letters* 118.16 162405 (2021). [doi:10.1063/5.0047737](https://doi.org/10.1063/5.0047737)
35. Gubanov, V. A., et al. Multimode unidirectional spin-wave coupling in an array of non-identical magnonic crystals near band gap frequencies. *Journal of Physics D: Applied Physics* 54.24 245001 (2021). doi:10.1088/1361-6463/abe5e0
36. Martyshkin, A. A., E. N. Beginin, and A. V. Sadovnikov. Spin waves transport in 3D magnonic waveguides. *AIP Advances* 11.3 035024 (2021). [doi:10.1063/9.0000185](https://doi.org/10.1063/9.0000185)
37. Grachev, A. A., et al. Voltage-controlled spin-wave intermodal coupling in lateral ensembles of magnetic stripes with patterned piezoelectric layer. *AIP Advances* 11.3 035316 (2021). [doi:10.1063/9.0000151](https://doi.org/10.1063/9.0000151)
38. Gubbiotti, Gianluca, et al. Magnonic band structure in vertical meander-shaped Co 40 Fe 40 B 20 thin films. *Physical Review Applied* 15.1 014061 (2021). doi:10.1103/PhysRevApplied.15.014061
39. A. A. Martyshkin, E. N. Beginin, A. V. Sadovnikov, “Frequency-selective propagation of spin waves in a three-dimensional magnon T-shaped splitter”, *Zhurnal Tekhnicheskoi Fiziki*, 91:10 1555–1559 (2021). [doi:10.21883/JTF.2021.10.51370.134-21](https://doi.org/10.21883/JTF.2021.10.51370.134-21)
40. S. A. Odintsov, A. A. Amirov, A. A. Grachev, V. V. Rodionova, A. V. Sadovnikov, “Mode filtering of surface magnetostatic waves in YIG/FeRh”, *Fizika Tverdogo Tela*, 63:9 1317–1320 (2021). [doi:10.21883/FTT.2021.09.51307.24H](https://doi.org/10.21883/FTT.2021.09.51307.24H)
41. A. B. Hutieva, E. N. Beginin, S. E. Sheshukova, A. V. Sadovnikov, “Linear dynamics of spin waves in an array of YIG waveguides”, *Fizika Tverdogo Tela*, 63:12 2116–2118 (2021). [doi:10.21883/FTT.2021.12.51672.181](https://doi.org/10.21883/FTT.2021.12.51672.181)
42. Grachev, A. A., et al. Strain reconfigurable spin-wave transport in the lateral system of magnonic stripes. *Journal of Magnetism and Magnetic Materials* 515 167302 (2020). [doi:10.1016/j.jmmm.2020.167302](https://doi.org/10.1016/j.jmmm.2020.167302)
43. Vysotskii, S. L., et al. Spin-waves generation at the thickness step of yttrium iron garnet film. *Applied Physics Letters* 117.10 102403 (2020). [doi:10.1063/5.0018388](https://doi.org/10.1063/5.0018388)
44. Sakharov, V. K., et al. Spin waves in meander shaped YIG film: Toward 3D magnonics. *Applied Physics Letters* 117.2 022403 (2020). [doi:10.1063/5.0013150](https://doi.org/10.1063/5.0013150)

45. Safin, A.R., Nikitov, S.A., Kirilyuk, A.I. et al. Excitation of Terahertz Magnons in Antiferromagnetic Nanostructures: Theory and Experiment. *J. Exp. Theor. Phys.* 131, 71–82 (2020). doi:10.1134/S1063776120070110
46. Odincov, S. A., et al. Intensity and magnetization angle reconfigurable lateral spin-wave coupling and transport. *Journal of Magnetism and Magnetic Materials* 500 166344 (2020). doi:10.1016/j.jmmm.2019.166344
47. Beginin, E. N., et al. Collective and localized modes in 3D magnonic crystals. *Journal of Magnetism and Magnetic Materials* 492 165647 (2019). doi:10.1016/j.jmmm.2019.165647
48. Martyshkin, Alexandr A., et al. Vertical spin-wave transport in magnonic waveguides with broken translation symmetry. *IEEE Magnetics Letters* 10 1-5 (2019). doi:10.1109/LMAG.2019.2957264
49. Kalyabin, D. V., et al. Surface spin waves propagation in tapered magnetic stripe. *Journal of Applied Physics* 126.17 173907 (2019). doi:10.1063/1.5099358
50. Martyshkin, A.A., Odintsov, S.A., Gubanova, Y.A. et al. Controlled Spin-Wave Transport in a Magnon-Crystal Structure with a One-Dimensional Array of Holes. *Jetp Lett.* 110, 533–539 (2019). doi:10.1134/S0021364019200062
51. Sadovnikov, Alexandr V., et al. Magnon straintronics to control spin-wave computation: strain reconfigurable magnonic-crystal directional coupler. *IEEE Magnetics Letters* 10 1-5 (2019). doi:10.1109/LMAG.2019.2943117
52. Odintsov, S.A., Beginin, E.N., Sheshukova, S.E. et al. Reconfigurable Lateral Spin-Wave Transport in a Ring Magnonic Microwaveguide. *Jetp Lett.* 110, 430–435 (2019). doi:10.1134/S0021364019180061
53. Popov, P. A., et al. Spin wave propagation in three-dimensional magnonic crystals and coupled structures. *Journal of Magnetism and Magnetic Materials* 476 423-427 (2019). doi:10.1016/j.jmmm.2018.12.008
54. Sadovnikov, A. V., et al. Route toward semiconductor magnonics: Light-induced spin-wave nonreciprocity in a YIG/GaAs structure. *Physical Review B* 99.5 054424 (2019). doi:10.1103/PhysRevB.99.054424
55. Finizio, Simone, et al. Dynamic imaging of the delay-and tilt-free motion of Néel domain walls in perpendicularly magnetized superlattices. *Nano letters* 19.1 375-380 (2018). doi:10.1021/acs.nanolett.8b04091
56. Sadovnikov, Alexandr V., et al. Nonlinear lateral spin-wave transport in planar magnonic networks. *IEEE Magnetics Letters* 9 1-5 (2018). doi:10.1109/LMAG.2018.2874349
57. Sadovnikov, A.V., Grachev, A.A., Odintsov, S.A. et al. Neuromorphic Calculations Using Lateral Arrays of Magnetic Microstructures with Broken Translational Symmetry. *Jetp Lett.* 108, 312–317 (2018). doi:10.1134/S0021364018170113
58. Sadovnikov, A. V., et al. Magnon straintronics: Reconfigurable spin-wave routing in strain-controlled bilateral magnetic stripes. *Physical review letters* 120.25 257203 (2018). doi:10.1103/PhysRevLett.120.257203
59. Sadovnikov, A. V., et al. Spin-wave drop filter based on asymmetric side-coupled magnonic crystals. *Physical Review Applied* 9.5 051002 (2018). doi:10.1103/PhysRevApplied.9.051002
60. Sadovnikov, A. V., et al. Spin-wave intermodal coupling in the interconnection of magnonic units. *Applied Physics Letters* 112.14 142402 (2018). doi:10.1063/1.5027057

61. Beginin, E. N., et al. Spin wave steering in three-dimensional magnonic networks. *Applied Physics Letters* 112.12 122404 (2018). [doi:10.1063/1.5023138](https://doi.org/10.1063/1.5023138)
62. Sadovnikov, A.V., Odintsov, S.A., Beginin, E.N. et al. Nonlinear Spin Wave Effects in the System of Lateral Magnonic Structures. *Jetp Lett.* 107, 25–29 (2018). doi:10.1134/S0021364018010113