

## Professor Ildar Gabitov

### Selected publications (since 2012):

- Stochastic pulse switching in a degenerate resonant optical medium, *Phys. Rev. A* 85, 043834 (2012) (with E. P. Atkins, P. R. Kramer, and G. Kovacic)
- Linear and Nonlinear Metamaterials and Transformation Optics, pp. 1-27, in book “Tutorials in Metamaterials”, Eds. M. A. Noginov and V. A. Podolskiy; series in Nano-Optics and Nanophotonics, Series Eds. S. Kawata and V. M. Shalaev; CRC Press, Taylor & Francis Group, New York, NY, 2012. (with N.M. Litchinitser, A. I. Maimistov, and V. M. Shalaev)
- Electrodynamics of a split-ring Josephson resonator in a microwave line, *Phys. Rev. B* 85, 205446 (2012) (with J.-G. Caputo, and A. I. Maimistov )
- Caputo, J.-G., Gabitov, I., Maimistov, A.I., Electrodynamics of a split-ring Josephson resonator in a microwave line, *Phys. Rev., B*, (2012)
- Random polarization dynamics in a resonant optical medium, *Optics Letters*, 38(6), pp. 893-895 (2013), <http://dx.doi.org/10.1364/OL.38.000893> (with K.A. Newhall, E.P. Atkins, P.R. Kramer, and G.Kovacic)
- Optical pulse dynamics in active metamaterials with positive and negative refractive index, *JOSAB* , 30( 4) pp. 1077-1084 (2013) (with A.O. Korotkevich, K. E. Rasmussen, G. Kovacic, V. Roytburd, and A. I. Maimistov )
- Effect of phase mismatch on second-harmonic generation in negative-index materials”, *Phys. Rev. A*, 87(6), (2013), DOI: 10.1103/PhysRevA.87.063840 (with Zh. Kudyshev and A. Maimistov)
- Nonlinear inverse synthesis and eigenvalue division multiplexing in optical fiber channels. *Phys. Rev. Lett.* 2014 Jul 1; 113(1):013901. Epub 2014 Jul 1, (with J. E Prilepsky, S. A Derevyanko, K. J Blow, S. K Turitsyn
- Second harmonic generation in transition metamaterials, *Journal of Optics* 16, 114011 (2014) (with Zh. A. Kudyshev, A. I. Maimistov, R.Z. Sagdeev, N. M. Litchinitser)
- Kharintsev, S.S.; Fishman, A.I.; Kazarian, S.G.; Gabitov, I.R.; Salakhov, M.K. Experimental Evidence for Axial Anisotropy beyond the Diffraction Limit Induced with a Bias Voltage Plasmonic Nanoantenna and Longitudinal Optical Near-Fields in Photoreactive Polymer Thin Films *ACS Photonics*, 1, 10, 1025-1032 (Oct. 2014)
- Prilepsky, J.E., Derevyanko, S.A., Blow, K.J., Gabitov, I., Turitsyn, S.K. Non-linear inverse synthesis and eigenvalue division multiplexing in optical fiber channels, *Phys. Rev. Lett.*, (2014)
- Kudyshev, Z.A.; Gabitov, I.R.; Maimistov, A.I.; Sagdeev, R.Z.; Litchinitser, N.M. Second harmonic generation in transition metamaterials *Journal of Optics*, 16, 11, 114011 (Nov. 2014)
- Caputo, J.-G., Gabitov I., Maimistov A.I. Polarization rotation by ab rf-SQUID metasurface, *Phys. Rev. B*, (2015)
- Anomalous refraction of an ultrashort light pulse at a nonlinear interface of dielectric media, *Journal of Optical Technology*, 82(11), 2015, (with A.I. Maimistov)
- Maimistov A.I., Gabitov I.R. Optical flat bands in 2D waveguide arrays with alternating sign of refraction index - *Journal of Physics: Conference Series*, 714-1, 2016, 012013
- Polarization rotation by an rf-SQUID metasurface, arXiv:1501.01536 [physics.optics], (with J.-G. Caputo, and A.I. Maimistov )
- Polarization rotation by an rf-SQUID metasurface, *Physical Review B*, 91(11) (with J-G. Caputo, and A.I. Maimistov),
- Second harmonic generation in dissipative metamaterials, arXiv:1310.3109 [physics.optics], (with Ye.S. Mukhametkarimov, Zh.A. Kudyshev, A.E. Davletov, A.I. Maimistov, M.G. Stepanov)