

Andrey Bogdanov

DATE OF BIRTH: April 22, 1986
PLACE OF BIRTH: Leningrad, USSR
FAMILY STATUS: Married
CITIZENSHIP: Russia
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194223 Saint Petersburg, Russia
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RESEARCH

Bound States in the Continuum, Surface Waves, Plasmonics, Photonics, Metamaterials, Metasurfaces, Microcavities, Physics of Semiconductors, Solid State Physics, Quantum Cascade Lasers, Quantum Dot Lasers,

EDUCATION

2009-2012

Ioffe Institute, St Petersburg, Russia

Ph.D. in Semiconductor Physics

Thesis: Electrodynamics of layered structures for quantum cascade lasers

Supervisor: **Prof. Dr. Robert Suris**

2007-2009

Saint-Petersburg State Polytechnical University, St Petersburg, Russia

M.Sc. in Technical Physics with Honors

Direction: physics of solid state

Thesis: Mode Structure Analysis of Quantum Cascade Lasers

Supervisor: **Prof. Dr. Robert Suris**

2003-2007

Saint-Petersburg State Polytechnical University, St Petersburg, Russia

B.Sc. in Technical Physics with Honors

Direction: physics of solid state

Thesis: Resonators for Quantum Cascade Lasers

Supervisor: **Prof. Dr. Robert Suris**

2001-2003

St Petersburg Presidential Physics and Mathematics Lyceum №239,

St Petersburg, Russia

High school degree with specialization in physics and mathematics

EMPLOYMENT

2022-present	Professor Qingdao Research & Innovation development center at Harbin Engineering University, Qingdao, China
2019-2022	Associate Professor ITMO University, St Petersburg, Russia
2014-2019	Research Fellow (PostDoc) ITMO University, St Petersburg, Russia
2010-2018	Lecturer St Petersburg Academic University — Nanotechnology Research and Education Centre of the Russian Academy of Sciences, St Petersburg, Russia
2007-2022	Senior Research Fellow Ioffe Institute, St Petersburg, Russia
2006-2010	Research Fellow R&D enterprise “Electron Beam Technology”, St Petersburg, Russia Topic: electro-beam purification of flue gases Charges: theoretical analysis and simulation of chemical reactions under electron beam radiation; wet chemistry experiments

TOP 10 PUBLICATIONS

1. Subwavelength dielectric resonators for nonlinear nanophotonics

Kirill Koshelev, Sergey Kruk, Elizaveta Melik-Gaykazyan, Jae-Hyuck Choi, Andrey Bogdanov, Hong-Gyu Park, Yuri Kivshar, Science 367, pp. 288, 2020 [IF: 41.063];

2. Observation of supercavity modes in subwavelength dielectric resonators

M. Odit, K. Koshelev, S. Gladyshev, K. Ladutenko, Yu. Kivshar, A. Bogdanov, Advanced Materials 2003804 (2020) [IF: 27.398];

3. High-Q supercavity modes in subwavelength dielectric resonators

Mikhail V. Rybin, Kirill L. Koshelev, Zarina F. Sadrieva, Kirill B. Samusev, Andrey A. Bogdanov, Mikhail F. Limonov, Yuri S. Kivshar, Phys. Rev. Lett 119(24), 243901, 2017 [IF: 8.462];

4. Chirality Driven by Magnetic Dipole Response for Demultiplexing of Surface Waves

I. S. Sinev, A. A. Bogdanov, F. E. Komissarenko, K. S. Frizyuk, M. I. Petrov, I. S. Mukhin, S. V. Makarov, A. K. Samusev, A. V. Lavrinenko, I. V. Iorsh, Laser & Photonics Reviews, Vol. 11, p. 1700168, 2017 [IF: 13.138]

5. Bound states in the continuum in compact acoustic resonators

Deriy, I Toftul, M Petrov, A Bogdanov, Physical Review Letters 128 (8), 084301 (2022)
[IF: 9.161];

6. Transition from optical bound states in the continuum to leaky resonances: role of substrate and roughness

Z. F. Sadrieva, I. S. Sinev, K. L. Koshelev, A. Samusev, I. V. Iorsh, O. Takayama, R. Malureanu, A. A. Bogdanov, A. V. Lavrinenko, ACS Photonics, Vol. 4, p. 723-727, 2017 [IF: 6.864];

7. Plasmon-assisted optical trapping and anti-trapping

A. Ivinskaya, M.I. Petrov, A.A. Bogdanov, I. Shishkin, P. Ginzburg, and A.S. Shalin, Light: Science & Applications, Vol. 6, p. e16258, 2017 [IF: 13.606];

8. Hybrid waves localized at hyperbolic metasurfaces (Editor's suggestions)

O. Y. Yermakov, A. I. Ovcharenko, M. Song, A. A. Bogdanov, I. V. Iorsh, and Yu. S. Kivshar, Phys. Rev. B, vol. 91, pp. 235423, 2015 [IF: 3.736];

9. Surface plasmon polariton assisted optical pulling force

M.I. Petrov, S.V. Sukhov, A.A. Bogdanov, A.S. Shalin, and A. Dogariu, Laser Photon. Rev., vol. 10, pp. 116-122, 2016 [IF: 10.655];

10. Polarization control over electric and magnetic dipole resonances of dielectric nanoparticles on metallic films

I. Sinev, I. Iorsh, A. Bogdanov, D. Permyakov, F. Komissarenko, I. Mukhin, A. Samusev, V. Valuckas, A.I. Kuznetsov, B.S. Luk'yanchuk, A. E. Miroshnichenko, Yu. S. Kivshar, Laser Photon. Rev., Vol. 10, pp. 799-806, 2016 [IF: 13.138];

TEACHING EXPERIENCE

2018-present	ITMO University Charges: lectures and practical classes on Photonics [in english]
2019-2020	ITMO University Charges: Lectures on Solid State Physics
2019-2021	ITMO University Charges: practical classes on COMSOL Multiphysics [in english]
2017-2019	ITMO University Charges: lectures and practical classes on Plasmonics [in english]
2016	On-line course on theoretical physics (https://stepic.org/course/Физика-Теоретический-минимум-155/)
2019	On-line course "Plasmonics: From Fundamentals to Modern Applications" https://www.edx.org/course/plasmonics-fundamentals-modern-itmox-plasmx

2014-2018	ITMO University Charges: lectures on mathematical methods in physics [in english]
2013-2014	Saint-Petersburg Academic University Charges: lectures and practical classes on quantum optics
2012-2013	Saint-Petersburg State Polytechnical University Charges: practical classes on classical electrodynamics
2007-2014	Saint-Petersburg State Polytechnical University Charges: lectures and practical classes on mathematical physics

SCIENCE SCHOOLS AND TRAINEESHIP:

2020	Traineeship program «Online learning tool developments» (11 days). ITMO University;
2017	Visiting researcher (8 weeks), DTU Photonics (group by Prof. A. Lavrinenko). Study of surface waves on trench structures. Copenhagen, Denmark;
2015	Traineeship program (4 weeks) «Theoretical analysis and computer simulation of metasurfaces», The Complutense University, Madrid, Spain;
2015	Visiting researcher (3 weeks). Optical forces acting on a small particle inside wire medium. Tel Aviv University (group by Prof. P. Ginzburg), Israel;
2013	7th Summer School (1 week) «New frontiers in Optical Technologies», Tampere, Finland;
2011	6th Summer School (1 week) «New frontiers in Optical Technologies», Tampere, Finland;
2010	Traineeship program (1 week) «Training in Modern trends in Nanophysics», the Mediterranean Institute of Fundamental Physics, Rome, Italy;

FUNDING AND GRANTS

2012-2013	“Quantum cascade laser operating in the surface polariton mode with negative dispersion” (400K RUR, PI) <i>The Russian Foundation for Basic Research</i>
2013-2013	“Disorder in photonic crystals” (300K RUR, PI) <i>The Russian Foundation for Basic Research</i>
2012-2013	“Theory and simulation of tunable metamaterials based on semiconductor superlattices for THz and millimeter range” (700K RUR, PI) <i>The Russian Foundation for Basic Research</i>

2016-2018	<p>“Study of single nanoparticles and their arrays for optical communications” (5.1M RUR, PI)</p> <p><i>The Russian Foundation for Basic Research</i></p>
2016-2017	<p>“Radiationless optical states in the dielectric nanostructures with energies within the light cone for optical communication systems” (1.2M RUR, PI)</p> <p><i>Russian Federation President Grant for Young Russian Scientists</i></p>
2017	<p>“Development of high-Q optical resonators based on nonradiative optical states in dielectric nanostructures with energies above the light line” (0.2M RUR, PI)</p> <p><i>St Petersburg Government</i></p>
2017-2018	<p>Grant for development of on-line course “Plasmonics: From Fundamentals to Modern Applications” (0.5M RUR, PI)</p> <p>https://www.edx.org/course/plasmonics-fundamentals-modern-itmox-plasmx</p> <p><i>The Vladimir Potanin Foundation</i></p>
2017-2019	<p>“High-Q resonators based on bound states in the continuum”(18M RUR, PI)</p> <p><i>Ministry of Education and Science of the Russian Federation</i></p>
2018	<p>Grant for organisation of Doctoral Summer School on Nanophotonics and Metamaterials (200K RUR, PI)</p> <p><i>Russian Foundation for Basic Research</i></p>
2019-2021	<p>“Bound states in the continuum for light localization in subwavelength high-Q resonators” (3M RUR, PI)</p> <p><i>Russian Foundation for Basic Research</i></p>
2019-2020	<p>“Bound states in the continuum for efficient light localization in dielectric subwavelength structures” (6M RUR, PI)</p> <p><i>Russian Foundation for Basic Research</i></p>
2019-2021	<p>“Dielectric and plasmonic nanoantennas for spectrum selection and enhancement of outcoupling emission from high-Q near-infrared microdisk lasers” (15M RUR, PI)</p> <p><i>Russian Foundation for Basic Research</i></p>
2018-2023	<p>“Generation of optical harmonics in nonlinear subwavelength resonators” (27M RUR, PI)</p> <p><i>Russian Science Foundation</i></p>
2021-2021	<p>“Generation of optical harmonics at resonance states of dielectric and hybrid photonic nanostructures” (10M RUR, PI)</p> <p><i>Ministry of Education and Science of the Russian Federation (International Russia-Israel project)</i></p>
2021-2023	<p>“Optical sensing with advanced nanophotonics systems” (128M RUR, co-PI)</p> <p><i>Russian Science Foundation</i></p>

2021-2023	“Excitation, scattering, and steering of acoustic waves with plasmonic nanostructures” (18M RUR, PI) <i>Russian Science Foundation (International Russia-Germany grant)</i>
2021-2023	“Nanophotonics as a speedrun from pupils to advanced researchers” (68M RUR, PI) <i>Ministry of Education and Science of the Russian Federation (Federal academic leadership program Priority 2030)</i>

SCHOLARSHIPS AND AWARDS

2023	Highly Cited Paper Award March 2023 from Opto-Electronic Advances for the paper “Intelligent metaphotonics empowered by machine learning”, Opto-Electron Adv. 5, 210147 (2022). DOI: 10.29026/oea.2022.210147
2021	Leonard Euler prize for young scientists "For research of dielectric nanoantennas and nanoresonators for localization and control of electromagnetic radiation on subwavelength scales"
2021	Physical Review Journals Award for the paper “Exceptional Point Conditions in Perturbed Coupled Resonators: A Generalized Approach” at Metamaterials Congress 2021, New York, USA
2018	Award of the physical department of the Russian Academy of Science “Best scientific work of young scientist” for the cycle of papers “Optical forces in nanophotonics and metamaterials”
2019	Advanced Photonics Editors-in-Chief Choice Award “Bound states in the continuum and Fano resonances in the strong mode coupling regime” Advanced Photonics Vol. 1, Issue 1, 016001 (2019)
2018	Best Poster Award for work “All-angle control over directional excitation of surface plasmon polariton with a silicon nanoantenna” at the 3rd International conference Frontiers in Plasmonics and Nano-Photonics, NanoPlams 2018 (Cetraro, Italy)
2018	The winner of the Junior PostDoc Fellowship provided by Theoretical Physics and Mathematics Advancement Foundation “BASIS”
2017	Best Lecturer Award for lecture “Power of light: from atoms to spacecrafts” at the International Winter School on Semiconductors (Zelenogorsk, Russia).
2016, 2018, 2020	Winner of the Russian President's grant competition.
2013	Winner of the contest of business ideas, scientific and technical developments and research projects «Young. Restless. Promising.» (St Petersburg, Russia);
2013	Award of the St. Petersburg Government for the research and educational activity;

2012	Winner of the young scientist competition at the International Winter School on Physics of Semiconductor (St Petersburg, Russia);
2012	The prize for the best research of the department of solid-state electronics of the Ioffe Institute (St Petersburg, Russia);
2010	Young Scientist Award (European Optical Society, Paris, France);
2010	The prize for the best oral report at the 2nd International Symposium "Semiconductor Lasers: Physics and Technology" (St Petersburg, Russia);
2010-2012	Winner of grant competition for graduate students and young theoretical physicist («Dynasty» Foundation);
2009	The prize for the best poster at the conference «Physics.SPb» (St Petersburg, Russia) http://www.ioffe.ru/young/index2.html
2009	Diploma for the best oral report at the XI Russian Youth Conference on Physics of Semiconductors and Nanostructures, Opto- and Nanoelectronics

PROFESSIONAL MEMBERSHIPS

2016-present	Member of IEEE Photonic Society
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JOURNAL REFEREE

Nature Materials, Nature Photonics, Physical Review Letters, Physical Review B, Physical Review A, Laser and Photonics Reviews, ACS Photonics, Optics Express, Optics Letters, JETP Letters, JOSA B, Nanophotonics

EDITORSHIP

2022-present	Editor of Photonics and Nanostructures - Fundamentals and Applications Journal. https://www.journals.elsevier.com/photonics-and-nanostructures-fundamentals-and-applications/editorial-board
2021	Guest Editor in Nanophotonics Journal. Special Issue "Bound States in the Continuum in Photonics" https://www.mdpi.com/journal/photonics/special_issues/BICs
	Guest Editor in Photonics Journal. Special Issue "Bound States in the Continuum in Photonics" https://www.mdpi.com/journal/photonics/special_issues/BICs
	Guest Editor in Sensors Journal. Special Issue "2D Materials for Optical Sensing and Photonic Applications" https://www.mdpi.com/journal/sensors/special_issues/2MOSPA

ADDITIONAL INFORMATION

2021	Organizer of the special symposium “All-dielectric nanophotonics” at the International conference MetaNano-2021 (on-line)
2020	Organizer of the special session on “Bound states in the continuum in photonics” at the International conference MetaNano-2020 (Tbilisi, Georgia)
2019	Organizer of the special session on “Bound states in the continuum in photonics” at the International conference MetaNano-2019 (St Petersburg, Russia)
2018-present	Head of the international master's program “Nanophotonics and Metamaterials” at ITMO University (https://physics.itmo.ru/en/study/nanophotonics-and-metamaterials)
2016-present	Program Chair of the International Summer School Nanophotonics and Metamaterials (https://school.physics.itmo.ru)

HOBBY

Volleyball, Chinese language

LIST OF PUBLICATIONS

2023

- 1. Advanced fiber in-coupling through nanoprinted axially symmetric structures**
Oleh Yermakov, Matthias Zeisberger, Henrik Schneidewind, Jisoo Kim, Andrey Bogdanov, Yuri Kivshar, Markus A Schmidt, Applied Physics Reviews 10(1), 011401 (2023)[**IF: 19.162**];
- 2. Indirect bandgap MoSe₂ resonators for light-emitting nanophotonics**
B. Borodin, F. Benimetskiy, V. Davydov, I. Eliseyev, A. Smirnov, D. Pidgayko, S. Lepeshov, A. Bogdanov, A. Prokhor, Nanoscale Horizons (2023) [**IF: 11.684**];
- 3. Metahouse: Noise-Insulating Chamber Based on Periodic Structures**
Mariia Krasikova, Sergey Krasikov, Anton Melnikov, Yuri Baloshin, Steffen Marburg, David A. Powell, Andrey Bogdanov, Advanced Materials Technologies 8, 2200711 (2023) [**IF: 8.856**];
- 4. Multipolar theory of bianisotropic response of meta-atoms**
M Poleva, K Frizyuk, K Baryshnikova, A Evlyukhin, M Petrov, A Bogdanov, Physical Review B 107 (4), L041304 [**IF: 4.036**];

5. Room-temperature exceptional-point-driven polariton lasing from perovskite metasurface

M.A. Masharin, A.K. Samusev, A.A. Bogdanov, I.V. Iorsh, H.V. Demir, S.V. Makarov, Adv. Funct. Mater., 2215007 (2023) [IF: 18.808];

2022

6. Bound states in the continuum in compact acoustic resonators

I Deriy, I Toftul, M Petrov, A Bogdanov, Physical Review Letters 128 (8), 084301 (2022) [IF: 9.161];

7. Bound States in the Continuum in Multipolar Lattices

S Gladyshev, A Shalev, K Frizyuk, K Ladutenko, A Bogdanov PRB — Rapid. Comm., 105, L241301 (2022) [IF: 4.036] [Editors' Suggestion]

8. Nanoscale Electric Field Probing in a Single Nanowire with Raman Spectroscopy and Elastic Strain

Vladislav A Sharov, Alexey M Mozharov, Vladimir V Fedorov, Andrey Bogdanov, Prokhor A Alekseev, Ivan S Mukhin, Nano Letters 22(23), 9523 (2022) [IF: 12.262]

9. Intelligent metaphotonics empowered by machine learning

Sergey Krasikov, Aaron Tranter, Andrey Bogdanov, Yuri Kivshar, Opto-Electronic Advances (2022) [IF: 9.682];

10. On anomalous optical beam shifts at near-normal incidence

M. Mazanov, O. Yermakov, A. Bogdanov, A. Lavrinenko, APL Photonics 7 (10), 101301 (2022) [IF: 5.776];

11. Nanoscale Gallium Phosphide Epilayers on Sapphire for Low-Loss Visible Nanophotonics

Vladimir V Fedorov, Olga Yu Koval, Daniil R Ryabov, Sergey V Fedina, Igor E Eliseev, Demid A Kirilenko, Dmitry A Pidgayko, Andrey A Bogdanov, Yury M Zadiranov, Alexandr S Goltaev, Georgy A Ermolaev, Aleksey V Arsenin, Sergey V Makarov, Anton K Samusev, Valentyn S Volkov, Ivan S Mukhin, ACS Applied Nano Materials 5(7), 8846 (2022) [IF: 5.640];

12. Inverse design of nanophotonics devices and materials

P.R. Wiecha, A.Y. Petrov, P. Genevet, A. Bogdanov, Photonics and Nanostructures-Fundamentals and Applications, 52, 101081 (2022) [IF: 3.164];

13. Enhanced sensitivity of an all-dielectric refractive index sensor with optical bound state in the continuum

D.N. Maksimov, V.S. Gerasimov, A.A. Bogdanov, S.P. Polyutov, Physical Review A 105 (3), 033518 (2022) [IF: 3.989];

14. Topologically Enabled Ultrahigh-Q Chiroptical Resonances by Merging Bound States in the Continuum

S. Wan, K. Wang, F. Wang, C. Guan, W. Li, J. Liu, A. Bogdanov, P.A. Belov, J. Shi, *Optics Letters* 47 (13), 3291-3294 (2022) [IF: 3.560];

15. Bound states in the continuum in photonic structures

K.L. Koshelev, Z.F. Sadrieva, A.A. Shcherbakov, Y.S. Kivshar, A.A. Bogdanov, *Physics–Uspekhi*, 65 (2022) [IF: 3.361];

16. Radiation outcoupling from microdisk lasers via dielectric resonant nanoantennas

Dmitry Pidgayko, Ivan Melnichenko, Vitaliy Shkoldin, Lev Logunov, Natalia Kryzhanovskaya, Anton Samusev, Andrey Bogdanov, *Photonics and Nanostructures–Fundamentals and Applications*, 52, 101081 (2022) [IF: 3.164];

2021

17. The science of harnessing light's darkness

Andrey A. Bogdanov, Andrea Fratalocchi, and Yuri Kivshar. *Nanophotonics*, 10(17), 4171 (2021) [IF: 8.449];

18. Bound states in the continuum in periodic structures with structural disorder

E.E. Maslova, M.V. Rybin, A.A. Bogdanov, Z.F. Sadrieva, *Nanophotonics* 10 (17), 4313-4321 (2022) [IF: 8.449]

19. Observation of Ultrafast Self-Action Effects in Quasi-BIC Resonant Metasurfaces

Ivan Sinev, Kirill Koshelev, Zhuojun Liu, Anton Rudenko, Konstantin Ladutenko, Alexey Shcherbakov, Zarina Sadrieva, Mikhail Baranov, Tatiana Itina, Jin Liu, Andrey Bogdanov, Yuri Kivshar. *Nano Letters* 21(20), 8848–8855 (2021) [IF: 11.189];

20. Anapole-enabled RFID security against far-field attacks

Anna Mikhailovskaya, Diana Shakirova, Sergey Krasikov, Ildar Yusupov, Dmitry Dobrykh, Alexey Slobozhanyuk, Andrey Bogdanov, Dmitry Filonov, Pavel Ginzburg. *Nanophotonics*, 10(17), 4171 (2021) [IF: 8.449];

21. Chipless wireless temperature sensor based on quasi-BIC resonance

Ildar Yusupov, Dmitry Filonov, Andrey Bogdanov, Pavel Ginzburg, Mikhail V Rybin, Alexey Slobozhanyuk. *Applied Physics Letters* 119(19) 193504 (2021) [IF: 3.791];

22. Analytical Calculations of Scattering Amplitude of Surface Plasmon Polaritons Excited by a Spherical Nanoantenna

Anton V Dyshlyuk, Alexey Proskurin, Andrey A Bogdanov, Oleg B Vitrik. *Nanomaterials* 11(11) 2937 (2021) [IF: 5.076];

- 23. Excitation of a bound state in the continuum via spontaneous symmetry breaking**
Alexander Chukhrov, Sergey Krasikov, Alexey Yulin, Andrey Bogdanov. Phys. Rev. B 103, 214312 (2021) [IF: 4.036];
- 24. Hardware RFID security for preventing far-field attacks**
Dmitry Dobrykh, Dmitry Filonov, Alexey Slobozhanyuk, Pavel Ginzburg. IEEE Transactions on Antennas and Propagation (2021) [IF: 4.371];
- 25. Omnidirectional Miniature RFID Tag**
A. Mikhailovskaya, I. Yusupov, D. Dobrykh, S. Krasikov, D. Shakirova, A. Bogdanov, D. Filonov, P. Ginzburg, Applied Physics Letters 119(3), (2021) [IF: 3.791];
- 26. Tuning exceptional points with Kerr nonlinearity**
S Ramezanpour, A Bogdanov, Physical Review A 103 (4), 043510 (2021) [IF: 3.140];
- 27. Observation of an accidental bound state in the continuum in a chain of dielectric disks**
M.S. Sidorenko, O.N. Sergaeva, Z.F. Sadrieva, C. Roques-Carmes, P.S. Muraev, D.N. Maksimov, A.A. Bogdanov, Physical Review Applied 15 (3), 034041 (2021) [IF: 4.985];
- 28. Multipolar engineering of subwavelength dielectric particles for scattering enhancement**
S Krasikov, M Odit, D Dobrykh, I Yusupov, A Mikhailovskaya, D Shakirova, A Shcherbakov, A Slobozhanyuk, P Ginzburg, D Filonov, A Bogdanov, Physical Review Applied 15 (2), 024052 (2021) [IF: 4.985];
- 29. From Fano to Quasi-BIC Resonances in Individual Dielectric Nanoantennas**
E. Melik-Gaykazyan, K. Koshelev, J.-H. Choi, S.S. Kruk, A. Bogdanov, H.-G. Park, Yu. Kivshar, Nano Letters 21 (4), 1765-1771 (2021) [IF: 12.727];
- 30. Fractional Charge States in the Magneto-Photoluminescence Spectra of Single-Electron InP/GaInP2 Quantum Dots**
Alexander Mintairov, Dmitrii Lebedev, Alexei Vlasov, Andrey Bogdanov, Shahab Ramezanpour, Steven Blundell, Nanomaterials 11 (2), 493 (2021) [IF: 5.076];
- 31. A simple analytic approach to the problem of excitation of surface plasmon polaritons with a dipole nanoantenna**
AV Dyshlyuk, AA Bogdanov, OB Vitrik, Photonics and Nanostructures-Fundamentals and Applications 43, 100895 (2021) [IF: 3.008];
- 32. Observation of supercavity modes in subwavelength dielectric resonators**
M. Odit, K. Koshelev, S. Gladyshev, K. Ladutenko, Yu. Kivshar, A. Bogdanov, Advanced Materials 33, 2003804 (2021) [IF: 30.849];

33. Perfect absorption of a focused light beam by a single nanoparticle

A. Proskurin, A. Bogdanov, D.G. Baranov, Laser & Photonics Reviews, 2000430(2021) [IF: 13.138]

34. Photonic bound states in the continuum in Si structures with the self-assembled Ge nanoislands [Front Cover]

S.A. Dyakov, M.V. Stepikhova, A.A. Bogdanov, A.V. Novikov, D.V. Yurasov, Z.F. Krasilnik, S.G. Tikhodeev, N.A. Gippius, Laser & Photonics Reviews, 2000242 (2021) [IF: 13.138]

2020

35. Subwavelength dielectric resonators for nonlinear nanophotonics

Kirill Koshelev, Sergey Kruk, Elizaveta Melik-Gaykazyan, Jae-Hyuck Choi, Andrey Bogdanov, Hong-Gyu Park, Yuri Kivshar, Science 367, pp. 288, 2020 [IF: 41.063];

36. Engineering with Bound States in the Continuum

Kirill Koshelev, Andrey Bogdanov, Yuri Kivshar, Optics and Photonics News 31, pp. 38, 2020;

37. Scanning tunneling microscopy-induced light emission and I(V) study of optical near-field properties of single plasmonic nanoantennas

D.V. Lebedev, V.A. Shkoldin, A.M. Mozharov, D.V. Permyakov, L.N. Dvoretckaia, A.A. Bogdanov, A.K. Samusev, A.O. Golubok, I.S. Mukhin, The Journal of Physical Chemistry Letters 2020 (accepted) [IF: 6.71];

38. Steering of guided light with dielectric nanoantennas

Ivan S Sinev, Filipp E Komissarenko, Ivan V Iorsh, Dmitry V Permyakov, Anton K Samusev, Andrey A Bogdanov, ACS Photonics 7(3), 680, 2020 [IF: 6.864];

39. Nanostructure-Empowered Efficient Coupling of Light into Optical Fibers at Extraordinarily Large Angles [Front Cover]

Oleh Yermakov, Henrik Schneidewind, Uwe Hübner, Torsten Wieduwilt, Matthias Zeisberger, Andrey Bogdanov, Yuri Kivshar, and Markus A. Schmidt ACS Photonics, 2020 [IF: 6.864];

40. Electrically driven metal and all-dielectric nanoantennas for plasmon polariton excitation

Liliia Dvoretckaia, Konstantin Ladutenko, Alexey Mozharov, Georgiy Zograf, Andrey Bogdanov, Ivan Mukhin. Journal of Quantitative Spectroscopy and Radiative Transfer 224, 106825, 2020 [IF: 2.955];

41. Symmetry analysis and multipole classification of eigenmodes in electromagnetic resonators for engineering their optical properties

S. Gladishev, K. Frizyuk, A. Bogdanov, Phys. Rev. B 102, 075103 (2020) [IF: 3.836];

42. Optical bistability with bound states in the continuum in dielectric gratings

Dmitrii N. Maksimov, Andrey A. Bogdanov, and Evgeny N. Bulgakov, Phys. Rev. A 102, 033511 (2020) [IF: 2.777];

43. Polarization-controlled selective excitation of Mie resonances in a dielectric nanoparticle on a coated substrate

D.A. Pidgayko, Z.F. Sadrieva, K.S. Ladutenko, and A.A. Bogdanov, Phys. Rev. B 102, 245406 (2020) [IF: 3.836];

44. Dyakonov-like surface waves in anisotropic cylindrical waveguides

K.Y. Golenitskii, A.A. Bogdanov, Physical Review B 101(16), 165434 (2020) [IF: 3.836];

45. Multipole engineering for enhanced backscattering modulation

D. Dobrykh, D. Shakirova, S. Krasikov, A. Mikhailovskaya, I. Yusupov, A. Slobozhanyuk, K. Ladutenko, D. Filonov, A. Bogdanov, P. Ginzburg, Physical Review B 102, 195129 (2020) [IF: 3.836];

46. Photonic Spin Hall Effect: Contribution of Polarization Mixing Caused by Anisotropy

Maxim Mazanov, Oleh Yermakov, Ilya Deriy, Osamu Takayama, Andrey Bogdanov, Andrei V. Lavrinenko, Quantum Reports 2(4), 489, 2020 [IF: 2.907];

47. Long-range miniaturized ceramic RFID tags

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2022

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2. Bound states in the continuum in photonic structures

ITMO-Bilkent UNAM International Workshop, Oct 12 (Ankara, Turkey) [**invited**]

3. Bound states in the continuum in nanophotonics (online)

International Lecture Series on Nanophotonics LMU, Nov 2 (Munich, Germany) [**invited**]

4. Self-complementary metasurfaces – novel platform for surface waves manipulation

SPIE Photonics Europe, Apr 3-7 (Strasbourg, France) [**oral**]

5. Perfect absorption of a focused light beam by a single deep – subwavelength nanoparticle

Nanometa — 8th International Topical Meeting on Nanophotonics and Metamaterials, Mar 28-31 (Seefeld, Austria) [**poster**]

6. Linear and nonlinear physics of bound states in the continuum

ASCO-NANOMAT 2022 — The Sixth Asian School-Conference on Physics and Technology of Nanostructured Materials, Apr 24-30 (Vladivostok, Russia) **[plenary]**

7. High-Q resonances in photonic crystals from the viewpoint of multipole analysis

School on Optoelectronics, Photonics and Nanobiostructures — SPb OPEN 2022 **[invited]**

8. Successful carrier of Carrier of PI

School of PI, May 18 (St. Petersburg, Russia) **[invited]**

2021

1. Bound states in the continuum in photonics

International School Laser Physics, Nov 17-18 (St Petersburg, Russia) **[invited]**

2. Bound states in the continuum: from quantum mechanics to nanophotonics

IPP Colloquium, Aug 6 (online) **[invited]**

3. Embedded eigenstates

Metamaterials School, Sep 24 (New York, USA, online) **[invited]**

4. High-Q subwavelength resonators in nanophotonics

VI International Conference on Metamaterials and Nanophotonics MetaNano 2021 (St Petersburg, Russia) **[extended]**

5. Optical harmonic generation in nanoresonators **[invited]**

International Summer School “Nonlinear photonics”, August 8-14 (2021) Novosibirsk, Russia

6. Introduction to Scattering theory **[invited]**

The third School on Advanced Light-Emitting and Optical Materials (SLALOM), June 28-30, (2021), Vladivostok, Russia

7. Bound states of the continuum in photonics **[Plenary talk]**

International Conference for Young Professionals in Physics and Technology (ICYPPT) (online)

2020

3. Bound states of the continuum in photonics **[Plenary talk]**

Andrey Bogdanov. The VI International Conference on Information Technology and Nanotechnology (ITNT-2020), Samara, Russia (online)

4. Multipole classification of eigenmodes in electromagnetic resonators for engineering their optical response **[invited]**

International Online Symposium on Recent advances in modal expansions for nanophotonic systems, Cardiff, UK (online)

5. High-Q optical states in individual resonators inspired by bound state in the continuum **[invited]**

Andrey Bogdanov, Kirill Koshelev, Sergey Gladyshev, Zarina Sadrieva, Mikhail Rybin, Kirill Samusev, Mikhail Limonov, Yuri Kivshar. Second International Conference on Nanophotonics, Metamaterials and Photovoltaics (ICNMP-2020), Trinidad, Cuba.

6. Manipulating surface plasmon-polaritons with dielectric nanoantennas [invited]

I.S. Sinev, F.E. Komissarenko, I.V. Iorsh, D.V. Permyakov, A.K. Samusev, A.A. Bogdanov
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7. High-Q states in subwavelength dielectric resonators forming in strong mode coupling regime [invited]

Andrey A. Bogdanov, Kirill L. Koshelev, Polina V. Kapitanova, Mikhail V. Rybin, Sergey A. Gladyshev, Zarina F. Sadrieva, Kirill B. Samusev, Yuri S. Kivshar, and Mikhail F. Limonov.
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8. High-Q resonances in all-dielectric subwavelength resonators: from theory to experiment (oral)

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9. Bound states in the continuum [invited]

A. A. Bogdanov. III International Conference "Science of the Future" 2019, Sochi, Russia.

10. Multipole Decomposition of Bound States in the Continuum in Dielectric Metasurfaces [invited]

Zarina Sadrieva, Kristina Frizyuk, Mihail Petrov, Yuri Kivshar, Andrey Bogdanov. 10th International Conference on Metamaterials, Photonic Crystals and Plasmonics META'2019, Lisbon, Portugal.

11. Bound states in the continuum in all-dielectric photonic structures [invited]

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12. Strong coupling between excitons in WSe₂ and bound states in the continuum (poster)

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16. High-Q Modes in subwavelength dielectric resonators (oral)

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17. All-angle control over directional excitation of surface plasmon polariton with a silicon nanoantenna (poster)

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19. Spin control of light with hyperbolic metasurfaces (poster)

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20. Dyakonov plasmons in mid-IR (Invited)

Andrey Bogdanov, Osamu Takayama, Evgeniy Shkondin, Mohammad Esmail Aryaee Panah, Kirill Golenitskii, Pavel Dmitriev, Taavi Repan, Radu Malureanu, Pavel Belov, Flemming Jensen, Andrei Lavrinenko, The 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'17), Seoul, South Korea, (2017)

21. Effect of substrate on Q-factor of optical bound states in the continuum (oral)

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22. Dyakonov plasmons in mid-IR: theory and experiment (oral)

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23. Destruction of Symmetry Protected Optical Bound State in the Continuum by High-Index Substrate and Roughnesses (oral)

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24. Effect of substrate on optical bound states in the continuum in 1D photonic structures (oral)

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2016

25. Hybrid localized waves supported by resonant anisotropic metasurfaces (oral)

A.A. Bogdanov, O.Y. Yermakov, A.I. Ovcharenko, M. Song, D.A. Baranov, I.S. Sinev, I.S. Mukhin, A.K. Samusev, I.V. Iorsh, A.V. Lavrinenko, Yu.S. Kivshar, Conference on Lasers and Electro-Optics (CLEO), USA, San Jose (2016);

26. Optical forces in nanorod metamaterials: beyond the effective medium approach (poster)

A. A. Bogdanov, A. S. Shalin, P. Ginzburg, Conference on Lasers and Electro-Optics (CLEO), USA, San Jose (2016);

27. Optical pulling force in the vicinity of plasmonic interfaces (oral)

A.A. Bogdanov, M.I. Petrov, S.V. Sukhov, A.S. Shalin, A. Dogariu, Conference on Lasers and Electro-Optics (CLEO), USA, San Jose (2016);

28. From high-Q magnetic dipole scattering to broadband electric field localization by silicon nanoparticle on metal (oral)

A.A. Bogdanov, I.S. Sinev, I.V. Iorsh, D.V. Permyakov, F.E. Komissarenko, I.S. Mukhin, A.K. Samusev, A.E. Miroshnichenko, Yu.S. Kivshar, Conference on Lasers and Electro-Optics (CLEO), USA, San Jose (2016);

29. Recoil force of surface plasmon polariton (poster)

A.A. Bogdanov, M.I. Petrov, S.V. Sukhov, A.S. Shalin, A. Dogariu, 24th International Symposium «Nanostructures: Physics and Technology», St Petersburg, Russia (2016);

30. Hybrid waves supported by resonant anisotropic metasurfaces (oral)

A.A. Bogdanov, O.Y. Yermakov, A.I. Ovcharenko, M. Song, D.A. Baranov, I.S. Sinev, I.S. Mukhin, A.K. Samusev, I. V. Iorsh, A.V. Lavrinenko, Yu.S. Kivshar, 24th International Symposium «Nanostructures: Physics and Technology», St Petersburg, Russia (2016);

31. Topological transition in anisotropic plasmonic metasurface (oral)

A.A. Bogdanov, O.Y. Yermakov, A.I. Ovcharenko, M. Song, D.A. Baranov, I.S. Sinev, I.S.

Mukhin, A.K. Samusev, I.V. Iorsh, A.V. Lavrinenko, Yu.S. Kivshar, The 7th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'16), Spain, Malaga (2016);

32. Anisotropic plasmonic metasurface: theory and experiment (oral)

A.A. Bogdanov, O.Y. Yermakov, A.I. Ovcharenko, M. Song, D.A. Baranov, I.S. Sinev, I.S. Mukhin, A.K. Samusev, I.V. Iorsh, A.V. Lavrinenko, Yu.S. Kivshar, EMN Quantum Meeting, Thailand, Phuket (2016);

2015

33. Temperature tunable semiconductor metamaterial for THz applications (oral)

A.A. Bogdanov, K.L. Koshelev, The 6th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'15), USA, New York (2015);

34. Surface Waves on Hyperbolic Metasurface (poster)

A.A. Bogdanov, O.Y. Yermakov, A.I. Ovcharenko, I.V. Iorsh, The 7th International Conference on Surface Plasmon Photonics (SPP-7), Israel, Jerusalem (2015);

2014

35. Langmuir modes in hyperbolic media (oral)

A.A. Bogdanov, N.D. Pavlov, P.V. Kapitanova, Days on Diffraction (DD'14), St Petersburg, Russia (2014);

36. Lateral quantization of exciton-polaritons in microcavities (poster)

A.A. Bogdanov, V.P. Kochereshko, A.V. Platonov, R.A. Suris, P. Savvidis, A.V. Kavokin, L. Besombes, H. Mariette, 22nd International Symposium «Nanostructures: Physics and Technology», St Petersburg, Russia (2014);

2012

37. Optically tunable metamaterial based on semiconductor superlattice (oral)

A.A. Bogdanov, R.A. Suris, The 6th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials'12), St Petersburg, Russia (2012);

2011

38. Whispering gallery modes of surface plasmon polaritons (oral)

A.A. Bogdanov, R.A. Suris, The 11th International Conference on Physics of Light-Matter Coupling in Nanostructures, Berlin, Germany (2011);

2010

39. Spectrum of layered structures for quantum cascade lasers (oral)

A.A. Bogdanov, R.A. Suris, European Optical Society Annual Meeting (EOSAM'10), Paris, France (2010);

40. Surface plasmon polariton modes versus modes of conventional layered waveguide in quantum cascade laser (oral)

A. A. Bogdanov, R. A. Suris, 18th International Symposium «Nanostructures: Physics and Technology», St Petersburg, Russia (2010);

