

Andrey Bogdanov

DATE OF BIRTH: April 22, 1986
PLACE OF BIRTH: Leningrad, USSR
FAMILY STATUS: Married
CITIZENSHIP: Russia
HOME ADDRESS: 8-2-78 Zhaka Dyuklo street
194223 Saint Petersburg, Russia
PHONE: +7-921-310-24-12
LANGUAGES: Russian, English
E-MAIL : a.bogdanov@metalab.ifmo.ru
WEB PAGE: metalab.ifmo.ru/people/~bogdanov
RESEARCH ID: B-1937-2014
ORCID: 0000-0002-8215-0445
GOOGLE SCHOLAR: <https://bit.ly/2Z8nr0E>



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

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
2007-present	Research Fellow Ioffe Institute, St Petersburg, Russia
2010-present	Associate Professor St Petersburg Academic University — Nanotechnology Research and Education Centre of the Russian Academy of Sciences, St Petersburg, Russia
2014-present	Research Fellow ITMO University, St Petersburg, Russia

TOP 10 PUBLICATIONS

1. 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];

2. 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: 8.434]

3. Midinfrared Surface Waves on a High Aspect Ratio Nanotrench Platform

Osamu Takayama, Evgeniy Shkondin, Andrey Bodganov, M. Esmail Aryaee Panah, Kirill Golenitskii, Pavel Dmitriev, Taavi Repän, Radu Malureanu, Pavel Belov, Flemming Jensen, and Andrei V. Lavrinenko, ACS Photonics 4, pp. 2899-2907, 2017 [IF: 6.756];

4. Photonic surface waves on metamaterial interfaces (review)

O. Takayama, A.A. Bogdanov and A V Lavrinenko, JPCM, Vol. 29, p. 463001, 2017 [IF: 2.649];

5. 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: 6.756];

6. 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];

7. Hybrid waves localized at hyperbolic metasurfaces

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];

8. 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: 8.008];

9. 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: 8.008];

10. Temperature-tunable semiconductor metamaterial

K. L. Koshelev and A. A. Bogdanov, *Phys. Rev. B*, vol. 92, pp. 085305, 2015 [IF: 3.736];

TEACHING EXPERIENCE

2007-2014	Saint-Petersburg State Polytechnical University Charges: lectures and practical classes on mathematical physics
2012-2013	Saint-Petersburg State Polytechnical University Charges: practical classes on classical electrodynamics
2013-2014	Saint-Petersburg Academic University Charges: lectures and practical classes on quantum optics
2014-2018	ITMO University Charges: lectures on mathematical methods in physics [in english]
2018-present	ITMO University Charges: lectures and practical classes on Plasmonics [in english]
2018-present	ITMO University Charges: lectures and practical classes on Photonics [in english]
2016-present	On-line course on theoretical physics (https://stepic.org/course/Физика-Теоретический-минимум-155/)
2019-present	On-line course "Plasmonics: From Fundamentals to Modern Applications" https://www.edx.org/course/plasmonics-fundamentals-modern-itmox-plasmx

SCIENCE SCHOOLS AND TRAINEESHIP:

- 2010 Traineeship program (1 week) «Training in Modern trends in Nanophysics», the Mediterranean Institute of Fundamental Physics, Rome, Italy;
- 2011 6th Summer School (1 week) «New frontiers in Optical Technologies», Tampere, Finland;
- 2013 7th Summer School (1 week) «New frontiers in Optical Technologies», Tampere, Finland;
- 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;
- 2017 Visiting researcher (8 weeks), DTU Photonics (group by Prof. A. Lavrinenko). Study of surface waves on trench structures. Copenhagen, Denmark;

FUNDING AND GRANTS

- 2012-2013 “Quantum cascade laser operating in the surface polariton mode with negative dispersion” (400K RUR, PI)
The Russian Foundation for Basic Research
- 2013-2013 “Disorder in photonic crystals” (300K RUR, PI)
The Russian Foundation for Basic Research
- 2012-2013 “Theory and simulation of tunable metamaterials based on semiconductor superlattices for THz and millimeter range” (700K RUR, PI)
The Russian Foundation for Basic Research
- 2016-2018 “Study of single nanoparticles and their arrays for optical communications” (5.1M RUR, PI)
The Russian Foundation for Basic Research
- 2016-2017 “Radiationless optical states in the dielectric nanostructures with energies within the light cone for optical communication systems” (1.2M RUR, PI)
Russian Federation President Grant for Young Russian Scientists
- 2017 “Development of high-Q optical resonators based on nonradiative optical states in dielectric nanostructures with energies above the light line” (0.2M RUR, PI)
St Petersburg Government
- 2017-2018 Grant for development of on-line course “Plasmonics: From Fundamentals to Modern Applications” (0.5M RUR, PI)
<https://www.edx.org/course/plasmonics-fundamentals-modern-itmox-plasmx>
The Vladimir Potanin Foundation

2017-2019	“High-Q resonators based on bound states in the continuum”(18M RUR, PI) <i>Ministry of Education and Science of the Russian Federation</i>
2018	Grant for organisation of Doctoral Summer School on Nanophotonics and Metamaterials (200K RUR, PI) <i>Russian Foundation for Basic Research</i>
2019-2021	“Bound states in the continuum for light localization in subwavelength high-Q resonators” (3M RUR, PI) <i>Russian Foundation for Basic Research</i>
2019-2020	“Bound states in the continuum for efficient light localization in dielectric subwavelength structures” (3M RUR, PI) <i>Russian Foundation for Basic Research</i>
2019-2021	“Dielectric and plasmonic nanoantennas for spectrum selection and enhancement of outcoupling emission from high-Q near-infrared microdisk lasers” (15M RUR, PI) <i>Russian Foundation for Basic Research</i>
2019-2021	“Generation of optical harmonics in nonlinear subwavelength resonators” (15M RUR, PI) <i>Russian Science Foundation</i>

SCHOLARSHIPS AND AWARDS

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
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);
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);
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;
- 2016, 2018 Winner of the Russian President's grant competition.
- 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”
- 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)

PROFESSIONAL MEMBERSHIPS

- 2016-present Member of IEEE Photonic Society

JOURNAL REFEREE

Physical Review Letters, Physical Review B, Physical Review A, Laser and Photonics Reviews, ACS Photonics, Optics Express, Optics Letters, JETP Letters

ADDITIONAL INFORMATION

- 2016-present Program Chair of EUPROMETA International Summer School Nanophotonics and Metamaterials (<http://metalab.ifmo.ru/school/>)
- 2018-present Head of the international master's program “Nanophotonics and Metamaterials” at ITMO University
- 2019 Organizer of the special session on “Bound states in the continuum in photonics” at the International conference MetaNano-2019 (St Petersburg, Russia)

HOBBY

Volleyball

LIST OF MAIN PUBLICATIONS

2019

1. Single-Mode Lasing from Imprinted Halide-Perovskite Microdisks

Alexey Zhizhchenko, Sergey Syubaev, Alexander Berestennikov, Alexey Yulin, Alexey Porfirev, Anatoly Pushkarev, Ivan Shishkin, Kirill Golokhvast, Andrey Bogdanov, Anvar Zakhidov, Aleksandr Kuchmizhak, Yuri Kivshar, ACS Nano, 2019 [IF: 13.942];

2. Bound states in the continuum and Fano resonances in the strong mode coupling regime

Andrey A. Bogdanov, Kirill L. Koshelev, Polina V. Kapitanova, Mikhail V. Rybin, Sergey S. Gladyshev, Zarina F. Sadrieva, Kirill B. Samusev, Yuri S. Kivshar and Mikhail F. Limonov, Advanced Photonics 1, 160001, 2019;

3. Optical binding via surface plasmon polariton interference

Natalia Kostina, Mihail Petrov, Aliaksandra Ivinskaya, Sergey Sukhov, Andrey Bogdanov, Ivan Toftul, Manuel Nieto-Vesperinas, Pavel Ginzburg, Alexander Shalin, Phys. Rev. B 2019 [IF: 3.836];

4. Direct imaging of isofrequency contours of guided modes in extremely anisotropic all-dielectric metasurface

Dmitry Pidgayko, Ivan S. Sinev, Dmitry V. Permyakov, Stanyslav Sychev, Frank Heyroth, Viktoriia Rutckaia, Joerg Schilling, Andrei V. Lavrinenko, Andrey A. Bogdanov, and Anton Samusev, ACS Photonics 2019 [IF: 6.880];

5. Broadband polarization degeneracy of guided waves in subwavelength structured ZnO pattern

Oleh Y. Yermakov, Andrey A. Bogdanov, Andrei Lavrinenko, IEEE Journal of Selected Topics in Quantum Electronics, vol. 25(3), pp. 1-7 (2019) [IF: 3.244];

2018

6. Enhanced Temperature-Tunable Narrow-Band Photoluminescence from Resonant Perovskite Nanograting

E.Y. Tiguntseva, Z. Sadrieva, B.V. Stroganov, Yu.V. Kapitonov, F. Komissarenko, R. Haroldson, B. Balachandran, W. Hu, Q. Gu, A.A. Zakhidov, A. Bogdanov, and S.V. Makarov, Applied Surface Science, 2018 [IF: 2.538];

7. Meta-optics and bound states in the continuum

Kirill Koshelev, Andrey Bogdanov, Yuri Kivshar, Science Bulletin, 2018 [IF: 3.224];

8. Experimental observation of hybrid TE-TM polarized surface waves supported by hyperbolic metasurface

Oleh Y. Yermakov, Anna A. Hurshkainen, Dmitry A. Dobrykh, Polina V. Kapitanova, Ivan V. Iorsh, Stanislav B. Glybovski, Andrey A. Bogdanov, Phys. Rev. B, vol. 98, pp. 195404, 2018 [IF: 3.836];

9. Near-field observation of guided-mode resonances on a metasurface via dielectric nanosphere excitation

Frederik Walla, Florian Bürkle, Ivan S. Sinev, Matthias Wiecha, Nicolas Mecklenbeck, Konstantin Ladutenko, Radu Malureanu, Filipp Komissarenko, Andrei V. Lavrinenko, Andrey Bogdanov, Amin Soltani, and Hartmut Roskos, ACS Photonics, 2018 [IF: 6.880];

10. Enhanced light outcoupling in microdisk lasers via Si spherical nanoantennas

N. Kryzhanovskaya, Yu. Polubavkina, E. Moiseev, M. Maximov, V. Zhurikhina, S. Scherbak, A. Lipovskii, M. Kulagina, Y. Zadiranov, I. Mukhin, F. Komissarenko, A. Bogdanov, A. Krasnok, and A. Zhukov, J. Appl. Phys., vol. 124, pp. 163102, 2018 [IF: 2.185];

11. Optomechanical manipulation with hyperbolic metasurfaces

A. Ivinskaya, N. Kostina, A. Proskurin, M. I. Petrov, A.A. Bogdanov, S. Sukhov, A.V. Krasavin, A. Karabchevsky, A.S. Shalin, and P. Ginzburg, ACS Photonics, 2018 [IF: 6.880];

12. Asymmetric metasurfaces with high-Q resonances governed by bound states in the continuum

Kirill Koshelev, Sergey Lepeshov, Mingkai Liu, Andrey Bogdanov, Yuri Kivshar, Phys. Rev. Lett., 2018 [IF: 8.462];

13. Strong coupling between excitons in transition metal dichalcogenides and optical bound states in the continuum

K. L. Koshelev, S. K. Sychev, Z. F. Sadrieva, A. A. Bogdanov, and I. V. Iorsh, Phys. Rev. B, vol. 98, pp. 161113(R), 2018 [IF: 3.836];

14. Effective surface conductivity of optical hyperbolic metasurfaces: from far-field characterization to surface wave analysis

Oleh Y. Yermakov, Dmitry V. Permyakov, Filipp V. Porubaev, Pavel A. Dmitriev, Anton K. Samusev, Ivan V. Iorsh, Radu Malureanu, Andrei V. Lavrinenko & Andrey A. Bogdanov, Sci. Rep., vol. 8, pp. 14135, 2018 [IF: 4.259];

15. Nonlinear bound states in the continuum of a one-dimensional photonic crystal slab

S. D. Krasikov, A. A. Bogdanov, I. V. Iorsh, Phys. Rev. B, vol. 97, pp. 224309, 2018 [IF: 3.836];

16. Experimental Observation of Dyakonov Plasmons in the Mid-Infrared

O. Takayama, P. Dmitriev, E. Shkondin, O. Yermakov, M. Panah, K. Golenitskii, F. Jensen, A. Bogdanov and A. Lavrinenko, *Semiconductors* 52(4), 442, 2018 [IF: 0.6];

2017

17. 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];

18. 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: 8.434]

19. Midinfrared Surface Waves on a High Aspect Ratio Nanotrench Platform

Osamu Takayama, Evgeniy Shkondin, Andrey Bogdanov, M. Esmail Aryaee Panah, Kirill Golenitskii, Pavel Dmitriev, Taavi Repän, Radu Malureanu, Pavel Belov, Flemming Jensen, and Andrei V. Lavrinenko, *ACS Photonics*, Vol. 4, pp. 2899-2907, 2017 [IF: 6.756];

20. Light Outcoupling from Quantum Dot-Based Microdisk Laser via Plasmonic Nanoantenna

Eduard I. Moiseev, Natalia Kryzhanovskaya, Yulia S. Polubavkina, Mikhail V. Maximov, Marina M. Kulagina, Yury M. Zadiranov, Andrey A. Lipovskii, Ivan S. Mukhin, Alexey M. Mozharov, Filipp E. Komissarenko, Zarina F. Sadrieva, Alexander E. Krasnok, Andrey A. Bogdanov, Andrei V. Lavrinenko, and Alexey E Zhukov, *ACS Photonics*, Vol. 4, pp. 275-281, 2017 [IF: 6.756];

21. Excitonic lasing of strain-free InP(As) quantum dots in AllnAs microdisk

D. V. Lebedev, M. M. Kulagina, S. I. Troshkov, A. S. Vlasov, V. Y. Davydov, A. N. Smirnov, A. A. Bogdanov, J. L. Merz, J. Kapaldo, A. Gocalinska, G. Juska, S. T. Moroni, E. Pelucchi, D. Baretin, S. Rouvimov, and A. M. Mintairov, *Applied Physics Letters*, Vol. 110, p. 121101, 2017 [IF: 3.411];

22. 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: 6.756];

23. 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];

24. Lasing in microdisks with an active region based on lattice-matched InP/AllnAs nanostructures

D. V. Lebedev, A. M. Mintairov, A. S. Vlasov, V. Yu. Davydov, M. M. Kulagina, S. I. Troshkov,

A. A. Bogdanov, A. N. Smirnov, A. Gocalinska, G. Juska, E. Pelucchi, J. Kapaldo, S. Rouvimov, J. L. Merz, *Technical Physics*, Vol. 62, pp. 1082-1086, 2017 [IF: 0.632];

25. Photonic surface waves on metamaterial interfaces

O Takayama, A A Bogdanov and A V Lavrinenko, *JPCM*, Vol. 29, p. 463001, 2017 [IF: 2.649];

26. Mid-infrared directional surface waves on a high aspect ratio nano-trench platform

Osamu Takayama, Evgeniy Shkondin, Andrey Bodganov, Mohammad Esmail Aryaee Panah, Kirill Golenitskii, Pavel Dmitriev, Taavi Repän, Radu Malureanu, Pavel Belov, Flemming Jensen, Andrei V. Lavrinenko, arXiv:1704.06108, arXiv preprint, 2017;

27. Polarization-resolved characterization of plasmon waves supported by an anisotropic metasurface

Anton Samusev, Ivan Mukhin, Radu Malureanu, Osamu Takayama, Dmitry V. Permyakov, Ivan S. Sinev, Dmitry Baranov, Oleh Yermakov, Ivan V. Iorsh, Andrey A. Bogdanov, Andrei V. Lavrinenko, *Optics Express* 25, 32631, 2017 [IF: 3.307];

28. Optical binding via surface plasmon polariton interference

Natalia Kostina, Aliaksandra Ivinskaya, Sergey Sukhov, Andrey Bogdanov, Ivan Toftul, Manuel Nieto-Vesperinas, Pavel Ginzburg, Mihail Petrov, Alexander Shalin, arXiv: 1708.05471, arXiv preprint, 2017;

2016

29. Light outcoupling from quantum dot-based microdisk laser via plasmonic nanoantenna

E.I. Moiseev, N.V. Kryzhanovskaya, Yu.S. Polubavkina, M.V. Maximov, M.M. Kulagina, Yu.M. Zadiranov, A.A. Lipovskii, I.S. Mukhin, A. Mozharov, F.E. Komissarenko, Z.F. Sadrieva, A.E. Krasnok, A.A. Bogdanov, A.V. Lavrinenko, and A.E. Zhukov, *ACS Photonics* , Vol. 4, pp. 275-281, 2016 [IF: 5.404];

30. Dark-field imaging as a non-invasive method for characterization of whispering gallery modes in microdisk cavities

D.A. Baranov, K.B. Samusev, I.I. Shishkin, A.K. Samusev, P.A. Belov, and A.A. Bogdanov, *Opt. Lett.*, Vol. 41, pp. 749, 2016 [IF: 3.179];

31. Topological transition in coated wire medium

M.A. Gorlach, M. Song, A.P. Slobozhanyuk, A.A. Bogdanov, P.A. Belov, *Phys. Status Solidi - Rapid Res. Lett.*, Vol. 10, pp. 900-904, 2016 [IF: 2.343];

32. 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: 8.008];

33. 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: 8.008];

34. Spin control of light with hyperbolic metasurfaces

O.Y. Yermakov, A.I. Ovcharenko, A.A. Bogdanov, I.V. Iorsh, K.Y. Bliokh, Yu.S. Kivshar, *Phys. Rev. B*, vol. 94, 075446, 2016 [IF: 3.736];

35. Tamm-Langmuir surface waves

K. U. Golenitskii, K. L. Koshelev, and A. A. Bogdanov, *Phys. Rev. A*, vol. 94, 043815, 2016 [IF: 2.991];

36. Interplay between anisotropy and spatial dispersion

K.L. Koshelev, A.A. Bogdanov, *Phys. Rev. B*, vol. 94, 115439, 2016 [IF: 3.736];

37. Bound state in the continuum in the one-dimensional photonic crystal slab

Z.F. Sadrieva and A.A. Bogdanov, *JPCS*, vol. 741, pp. 012122, 2016 [IF: 0.360];

38. Improved emission outcoupling from microdisk laser by Si nanospheres

Yu.S. Polubavkina, N.V. Kryzhanovskaya, E.I. Moiseev, M.M. Kulagina, I.S. Mukhin, F.E. Komissarenko, Yu.M. Zadiranov, M.V. Maximov, A.E. Krasnok, A.A. Bogdanov, A.E. Zhukov, and A.V. Shelaev, *JPCS*, vol. 741, pp. 012158, 2016 [IF: 0.360];

2015

39. Optical forces in nanorod metamaterial

A.A. Bogdanov, A. S. Shalin, *P.Ginzburg Sci. Rep.*, vol. 5, 15846, 2015 [IF: 5.078];

40. Mode selection in InAs quantum dot microdisk lasers using focused ion beam technique

A. A. Bogdanov, I. S. Mukhin, N. V. Kryzhanovskaya, M. V. Maximov, Z. F. Sadrieva, M. M. Kulagina, Yu. M. Zadiranov, A. A. Lipovskii, E. I. Moiseev, Yu. V. Kudashova, and A. E. Zhukov, *Opt. Lett.*, vol. 40, pp. 4022-4025, 2015 [IF: 3.179];

41. Temperature-tunable semiconductor metamaterial

K. L. Koshelev and A. A. Bogdanov, *Phys. Rev. B*, vol. 92, pp. 085305, 2015 [IF: 3.736];

42. Optical pulling forces in hyperbolic metamaterials

Alexander S. Shalin, Sergey V. Sukhov, Andrey A. Bogdanov, Pavel A. Belov, and Pavel Ginzburg, *Phys. Rev. A*, vol. 91, pp. 063830, 2015 [IF: 2.991];

43. Hybrid waves localized at hyperbolic metasurfaces

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];

2014

44. Ultrasmall microdisk and microring lasers based on InAs/InGaAs/GaAs quantum dots

M. V. Maximov, N. V. Kryzhanovskaya, A. M. Nadtochiy, E. I. Moiseev, I. I. Shostak, A. A.

Bogdanov, Z. F. Sadrieva, A. E. Zhukov, A. A. Lipovskii, D. V. Karpov, J. Laukkanen, J. Tommila, *Nanoscale Res. Lett.*, vol. 9, pp. 657, 2014 [IF: 2.779];

45. Lasing in microdisks of ultrasmall diameter

A. E. Zhukov, N. V. Kryzhanovskaya, M. V. Maximov, A. A. Lipovskii, A. V. Savel'yev, A. A. Bogdanov, I. I. Shostak, E. I. Moiseev, D. V. Karpov, J. Laukkanen, J. Tommila, *Semiconductors*, vol. 48, pp. 1626-1630, 2014 [IF: 0.705];

46. Control of emission spectra in quantum dot microdisk/microring lasers

N.V. Kryzhanovskaya, I.S. Mukhin, E.I. Moiseev, I.I. Shostak, A.A. Bogdanov, A.M. Nadtochiy, M.V. Maximov, A.E. Zhukov, M.M. Kulagina, K.A. Vashanova, Yu.M. Zadiranov, S.I. Troshkov, A.A. Lipovskii, and A. Mintairov, *Optics Express*, vol. 22, pp. 25782-25787, 2014 [IF: 3.525].

CONFERENCES

2019

- 1. 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. ICEAA 2019 International Conference on Electromagnetics in Advanced Applications 2019. Granada, Spain.
- 2. High-Q resonances in all-dielectric subwavelength resonators: from theory to experiment** (oral)
A. A. Bogdanov, K. L. Koshelev, M. Odit, S. A. Gladyshev, Z. F. Sadrieva, Yu. S. Kivshar. IV International Conference on Metamaterials and Nanophotonics MetaNano 2019 (St Petersburg, Russia)
- 3. Bound states in the continuum in all-dielectric photonic structures** (invited)
Andrey Bogdanov, Kirill Koshelev, Yuri Kivshar. 10th International Conference on Materials for Advanced Technologies ICMAT-2019, Singapore.
- 4. Strong coupling between excitons in WSe₂ and bound states in the continuum**
A. A. Bogdanov, K. L. Koshelev, S. K. Sychev, Z. F. Sadrieva, and I. V. Iorsh. The 7th International Topical Meeting on Nanophotonics and Metamaterials NanoMeta 2019. Seefeld, Austria.

2018

1. **High-Q states in subwavelength dielectric resonators as a result of strong light-light interaction** (invited)

Andrey Bogdanov, Kirill Koshelev, Sergey Gladyshev, Zarina Sadrieva, Mikhail Rybin, Kirill Samusev, Mikhail Limonov, Yuri Kivshar. International Conference on Nanophotonics, Metamaterials and Photovoltaics, Santiago de Cuba, Cuba, 2018

2. **Experimental observation of bound state in the continuum in 1D chain of dielectric disks at GHz frequencies** (invited)

Mikhail Balyzin, Zarina Sadrieva, Mikhail Belyakov, Polina Kapitanova, Almas Sadreev, and Andrey Bogdanov. META18, the 9th International Conference on Metamaterials, Photonic Crystals and Plasmonics, Marseille, France, 2018

2017

1. **Spin control of light with hyperbolic metasurfaces** (poster)

Andrey Bogdanov, Oleh Yermakov, Anton Ovcharenko, Ivan Iorsh, Konstantin Bliokh, and Yuri Kivshar, Nanometa, Seefeld (Tirol), Austria (2017);

2. (Invited) **Dyakonov plasmons in mid-IR** (oral)

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)

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

Andrey Bogdanov, Zarina Sadrieva, Ivan Sinev, Kirill Koshelev, Anton Samusev, Ivan Iorsh, Osamu Takayama, Radu Malureanu, Andrei Lavrinenko, The 8th International Conference on Metamaterials, Photonic Crystals and Plasmonics (META'17), Seoul, South Korea, (2017)

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

Andrey Bogdanov, Osamu Takayama, Evgeniy Shkondin, Mohammad Esmail Aryaee Panah, Kirill Golenitskii, Pavel Dmitriev, Taavi Repan, Radu Malureanu, Flemming Jensen, Andrei Lavrinenko, 25th International Symposium «Nanostructures: Physics and Technology», St. Petersburg, Russia, (2017)

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

Andrey Bogdanov, The 11th International Congress on Advanced Electromagnetic Materials in Microwaves and Optics (Metamaterials'13), Marseille, France, (2017)

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

Andrey Bogdanov, International Conference on Metamaterials and Nanophotonics METANANO-2017, Vladivostok, Russia.

2016

- 7. 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);
- 8. 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);
- 9. 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);
- 10. 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);
- 11. 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);
- 12. 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);
- 13. 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);
- 14. 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

- 15. 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);

16. 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

17. Langmuir modes in hyperbolic media (oral)

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

18. 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

19. 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

20. 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

21. 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);

22. 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);