

# Dmitry A. Bykov

## List of Publications by Year in descending order

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107  
papers

2,450  
citations

186265

28  
h-index

233421

45  
g-index

112  
all docs

112  
docs citations

112  
times ranked

1192  
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasmon-mediated magneto-optical transparency. Nature Communications, 2013, 4, 2128.	12.8	180
2	Optical computation of the Laplace operator using phase-shifted Bragg grating. Optics Express, 2014, 22, 25084.	3.4	104
3	Spatial differentiation of optical beams using phase-shifted Bragg grating. Optics Letters, 2014, 39, 1278.	3.3	99
4	Extraordinary transmission and giant magneto-optical transverse Kerr effect in plasmonic nanostructured films. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1594.	2.1	88
5	First-order optical spatial differentiator based on a guided-mode resonant grating. Optics Express, 2018, 26, 10997.	3.4	78
6	Bound states in the continuum and high-Q resonances supported by a dielectric ridge on a slab waveguide. Photonics Research, 2018, 6, 1084.	7.0	73
7	Numerical Methods for Calculating Poles of the Scattering Matrix With Applications in Grating Theory. Journal of Lightwave Technology, 2013, 31, 793-801.	4.6	68
8	Integrated flat-top reflection filters operating near bound states in the continuum. Photonics Research, 2019, 7, 1314.	7.0	62
9	Magneto-optical effects in the metal-dielectric gratings. Optics Communications, 2007, 278, 104-109.	2.1	55
10	Low-scattering surface plasmon refraction with isotropic materials. Optics Express, 2014, 22, 13547.	3.4	55
11	Photonic crystals with plasmonic patterns: novel type of the heterostructures for enhanced magneto-optical activity. Journal Physics D: Applied Physics, 2015, 48, 095001.	2.8	55
12	Coupled-wave formalism for bound states in the continuum in guided-mode resonant gratings. Physical Review A, 2019, 99, .	2.5	54
13	Temporal differentiation of optical signals using resonant gratings. Optics Letters, 2011, 36, 3509.	3.3	50
14	Spatial optical integrator based on phase-shifted Bragg gratings. Optics Communications, 2015, 338, 457-460.	2.1	49
15	Spatial integration and differentiation of optical beams in a slab waveguide by a dielectric ridge supporting high-Q resonances. Optics Express, 2018, 26, 25156.	3.4	48
16	Giant transversal Kerr effect in magneto-plasmonic heterostructures: The scattering-matrix method. Journal of Experimental and Theoretical Physics, 2010, 110, 816-824.	0.9	44
17	Designing double freeform surfaces for collimated beam shaping with optimal mass transportation and linear assignment problems. Optics Express, 2018, 26, 24602.	3.4	43
18	Linear assignment problem in the design of freeform refractive optical elements generating prescribed irradiance distributions. Optics Express, 2018, 26, 27812.	3.4	42

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19	Giant magneto-optical orientational effect in plasmonic heterostructures. <i>Optics Letters</i> , 2009, 34, 398.	3.3	39
20	Magnetophotonic intensity effects in hybrid metal-dielectric structures. <i>Physical Review B</i> , 2014, 89, .	3.2	39
21	Resonant diffraction gratings for spatial differentiation of optical beams. <i>Quantum Electronics</i> , 2014, 44, 984-988.	1.0	39
22	Time-domain differentiation of optical pulses in reflection and in transmission using the same resonant grating. <i>Journal of Optics (United Kingdom)</i> , 2013, 15, 105703.	2.2	34
23	Analytical source-target mapping method for the design of freeform mirrors generating prescribed 2D intensity distributions. <i>Optics Express</i> , 2016, 24, 10962.	3.4	34
24	Beam shaping with a plano-freeform lens pair. <i>Optics Express</i> , 2018, 26, 19406.	3.4	34
25	Bound states in the continuum and strong phase resonances in integrated Gires-Tournois interferometer. <i>Nanophotonics</i> , 2020, 9, 83-92.	6.0	31
26	Single-resonance diffraction gratings for time-domain pulse transformations: integration of optical signals. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2012, 29, 1734.	1.5	30
27	Design of diffractive lenses operating at several wavelengths. <i>Optics Express</i> , 2020, 28, 11705.	3.4	30
28	Two-groove narrowband transmission filter integrated into a slab waveguide. <i>Photonics Research</i> , 2018, 6, 61.	7.0	29
29	Extraordinary magneto-optical effect of a change in the phase of diffraction orders in dielectric diffraction gratings. <i>Journal of Experimental and Theoretical Physics</i> , 2010, 111, 967-974.	0.9	28
30	Planar two-groove optical differentiator in a slab waveguide. <i>Optics Express</i> , 2017, 25, 22328.	3.4	28
31	Optimal mass transportation and linear assignment problems in the design of freeform refractive optical elements generating far-field irradiance distributions. <i>Optics Express</i> , 2019, 27, 13083.	3.4	28
32	Analytical design of freeform optical elements generating an arbitrary-shape curve. <i>Applied Optics</i> , 2013, 52, 2521.	1.8	26
33	Diffraction gratings for generating varying-period interference patterns of surface plasmons. <i>Journal of Optics</i> , 2008, 10, 095204.	1.5	25
34	Suppression of the spectral selectivity of two-layer phase-relief diffraction structures. <i>Optics and Spectroscopy (English Translation of Optika i Spektroskopiya)</i> , 2009, 106, 621-626.	0.6	25
35	Spatiotemporal coupled-mode theory of guided-mode resonant gratings. <i>Optics Express</i> , 2015, 23, 19234.	3.4	25
36	Cross-polarization mode coupling and exceptional points in photonic crystal slabs. <i>Physical Review A</i> , 2018, 97, .	2.5	25



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55	Coupled-mode theory and Fano resonances in guided-mode resonant gratings: the conical diffraction mounting. Optics Express, 2017, 25, 1151.	3.4	15
56	Near-wavelength diffraction gratings for surface plasmon polaritons. Optics Letters, 2015, 40, 4935.	3.3	13
57	Supporting quadric method for designing refractive optical elements generating prescribed irradiance distributions and wavefronts. Optics Express, 2021, 29, 26304.	3.4	13
58	Integrated diffraction gratings on the Bloch surface wave platform supporting bound states in the continuum. Nanophotonics, 2021, 10, 4331-4340.	6.0	13
59	Improving the sensitivity of guided-mode resonance sensors under oblique incidence condition. Optics Express, 2019, 27, 30563.	3.4	13
60	Design of an axisymmetrical refractive optical element generating required illuminance distribution and wavefront. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2018, 35, 1949.	1.5	11
61	Integration of optical pulses by resonant diffraction gratings. JETP Letters, 2012, 95, 6-9.	1.4	10
62	Differentiating space-time optical signals using resonant nanophotonics structures. Doklady Physics, 2016, 61, 108-111.	0.7	10
63	Magneto-optical resonances in periodic dielectric structures magnetized in plane. Journal of Modern Optics, 2010, 57, 1611-1618.	1.3	9
64	Optimal mass transportation problem in the design of freeform optical elements generating far-field irradiance distributions for plane incident beam. Applied Optics, 2019, 58, 9131.	1.8	9
65	ON THE COMPENSATION OF THE DIFFRACTION ORDERS OVERLAP EFFECT IN THE OFFNER SPECTROMETER. Computer Optics, 2014, 38, 777-781.	2.2	9
66	Optical properties of perforated metal-dielectric heterostructures magnetized in the plane. Physics of the Solid State, 2009, 51, 1656-1662.	0.6	8
67	Integrated Gires-Tournois interferometers based on evanescently coupled ridge resonators. Optics Letters, 2020, 45, 5065.	3.3	8
68	On the use of the fourier modal method for calculation of localized eigenmodes of integrated optical resonators. Computer Optics, 2015, 39, 663-673.	2.2	8
69	ON THE RELATION BETWEEN THE PROPAGATION CONSTANT OF BLOCH SURFACE WAVES AND THE THICKNESS OF THE UPPER LAYER OF A PHOTONIC CRYSTAL. Computer Optics, 2018, 42, 22-27.	2.2	8
70	Design and fabrication of a freeform mirror generating a uniform illuminance distribution in a rectangular region. Computer Optics, 2020, 44, .	2.2	8
71	Faraday effect enhancement in metal-dielectric plasmonic systems. , 2007, 6581, 158.		7
72	Stable algorithm for the computation of the electromagnetic field distribution of eigenmodes of periodic diffraction structures. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2012, 29, 2307.	1.5	7

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73	Designing stigmatic lenses with minimal Fresnel losses. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2021, 38, 855.	1.5	7
74	On surface plasmon polariton wavepacket dynamics in metal-dielectric heterostructures. Journal of Physics Condensed Matter, 2010, 22, 395301.	1.8	6
75	Dynamics of surface plasmon polaritons in plasmonic crystals. Journal of the Optical Society of America B: Optical Physics, 2011, 28, 1111.	2.1	5
76	Use of aperiodic Fourier modal method for calculating complex-frequency eigenmodes of long-period photonic crystal slabs. Optics Express, 2017, 25, 27298.	3.4	5
77	SPATIAL INTEGRATION OF OPTICAL BEAMS USING PHASE-SHIFTED BRAGG GRATING. Computer Optics, 2014, 38, 372-376.	2.2	5
78	Formulation of the inverse problem of calculating the optical surface for an illuminating beam with a plane wavefront as the Monge-Kantorovich problem. Computer Optics, 2019, 43, .	2.2	5
79	Variational interpretation of the eikonal calculation problem from the condition of generating a prescribed irradiance distribution. Computer Optics, 2018, 42, 568-573.	2.2	5
80	Method for calculating the eikonal function and its application to design of diffractive optical elements for optical beam shaping. Computer Optics, 2022, 46, .	2.2	5
81	Magneto-optical effects at the Rayleigh-Wood and plasmon anomalies. , 2007, 6728, 107.		4
82	Diffraction elements in the optical systems of modern optoelectronics. Journal of Optical Technology (A Translation of Opticheskii Zhurnal), 2009, 76, 395.	0.4	4
83	Antireflection layers in low-scattering plasmonic optics. Photonics and Nanostructures - Fundamentals and Applications, 2015, 14, 101-105.	2.0	4
84	Multiscale approach and linear assignment problem in designing mirrors generating far-field irradiance distributions. Optics Letters, 2020, 45, 3549.	3.3	4
85	Resonant diffraction gratings for differentiation of optical signals in reflection and transmission. Computer Optics, 2013, 37, 138-145.	2.2	4
86	ON THE DIFFRACTION OF AN OPTICAL BEAM BY A PHASE SHIFTED BRAGG GRATING. Computer Optics, 2014, 38, 590-597.	2.2	4
87	RESONANT APPROXIMATION OF PHASE-SHIFTED BRAGG GRATING (PSBG) SPECTRA. Computer Optics, 2015, 39, 311-318.	2.2	4
88	Optical differentiator based on a trilayer metal-dielectric structure. Computer Optics, 2021, 45, .	2.2	3
89	Design of a stigmatic lens implementing a required ray mapping. Applied Optics, 2021, 60, 9138.	1.8	3
90	Analytical design of flat-top transmission filters composed of several resonant structures. Optics Express, 2019, 27, 26786.	3.4	3

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91	Broadband mirrors for surface plasmon polaritons using integrated high-contrast diffraction gratings. <i>Optics Express</i> , 2021, 29, 4022.	3.4	2
92	Supporting Quadric Method for Designing Freeform Mirrors That Generate Prescribed Near-Field Irradiance Distributions. <i>Photonics</i> , 2022, 9, 118.	2.0	2
93	Extraordinary magneto-optical effect of transmitted wave phase change in periodic diffraction structures. <i>Technical Physics Letters</i> , 2010, 36, 595-598.	0.7	1
94	Arbitrary-order optical differentiation in reflection by sequence of first-order differentiators. <i>Journal of Physics: Conference Series</i> , 2020, 1461, 012050.	0.4	1
95	Design of an axisymmetric optical element generating a prescribed illuminance distribution and wavefront. <i>Computer Optics</i> , 2018, 42, 772-778.	2.2	1
96	Variational approach to eikonal function computation. <i>Computer Optics</i> , 2018, 42, 557-567.	2.2	1
97	Optimal mass transportation problem in the design of freeform optical elements generating far-field irradiance distributions for plane incident beam. , 2020, , .		1
98	On-chip phase-shifted Bragg gratings and their application for spatiotemporal transformation of Bloch surface waves. , 2017, , .		0
99	Optical Properties of Resonant Diffraction Gratings with a Slowly Varying Period. , 2020, , .		0
100	The two reflector design problem for forming flat wavefront from a point source. , 2020, , .		0
101	A simple three-layer dielectric structure for spatiotemporal differentiation of optical signals. , 2018, , .		0
102	Integrated Spectral Filters Consisting of Several Dielectric Ridges on the Surface of a Slab Waveguide. , 2020, , .		0
103	Bound states in the continuum in composite structures consisting of two dielectric diffraction gratings with Lorentzian line shape. <i>AIP Conference Proceedings</i> , 2020, , .	0.4	0
104	All-dielectric filters with a butterworth line-shape composed of several resonant structures. <i>AIP Conference Proceedings</i> , 2020, , .	0.4	0
105	Gires-Tournois Interferometers for Modes of Dielectric Slab Waveguides. , 2021, , .		0
106	Optical Differentiator Based on a Three-Layer Metal-Dielectric Structure. , 2021, , .		0
107	Designing stigmatic lenses with minimal Fresnel losses: erratum. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2022, 39, 152.	1.5	0