

Michael K Trubetskov

List of Publications by Year in descending order

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192
papers

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citations

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193
all docs

193
docs citations

193
times ranked

5466
citing authors

#	ARTICLE	IF	CITATIONS
1	Stability of person-specific blood-based infrared molecular fingerprints opens up prospects for health monitoring. Nature Communications, 2021, 12, 1511.	12.8	35
2	Molecular Origin of Blood-Based Infrared Spectroscopic Fingerprints**. Angewandte Chemie, 2021, 133, 17197-17206.	2.0	0
3	Molecular Origin of Blood-Based Infrared Spectroscopic Fingerprints**. Angewandte Chemie - International Edition, 2021, 60, 17060-17069.	13.8	13
4	Ultra-rapid electro-optic sampling of octave-spanning mid-infrared waveforms. Optics Express, 2021, 29, 20747.	3.4	13
5	Attosecond-Precision Dual-Oscillator Infrared Field-Resolved Spectroscopy Employing Electro-Optic Delay Tracking. , 2021, , .		4
6	Innenr¼cktitelbild: Molecular Origin of Blood-Based Infrared Spectroscopic Fingerprints (Angew.) Tj ETQq0 0 0 ggBT /Overlock 10 Tf	2.0	0
7	Suppression of group delay dispersion oscillations of highly dispersive mirrors by non-uniformity and post-deposition treatment. Optics and Laser Technology, 2021, 142, 107192.	4.6	6
8	Field-resolved infrared spectroscopy of biological systems. Nature, 2020, 577, 52-59.	27.8	170
9	Optimum Sample Thickness for Trace Analyte Detection with Field-Resolved Infrared Spectroscopy. Analytical Chemistry, 2020, 92, 7508-7514.	6.5	9
10	Characterization of e-beam evaporated Ge, YbF₃, ZnS, and LaF₃ thin films for laser-oriented coatings. Applied Optics, 2020, 59, A40.	1.8	98
11	Deep search methods for multilayer coating design. Applied Optics, 2020, 59, A75.	1.8	9
12	Broadband phase-shifting mirrors for ultrafast lasers. Applied Optics, 2020, 59, A123.	1.8	0
13	Optical interference coating design contest 2019: a non-polarizing beam splitter and a color-mixing challenge [Invited]. Applied Optics, 2020, 59, A206.	1.8	1
14	Mid-infrared waveform measurement by rapid mechanical scanning. EPJ Web of Conferences, 2020, 243, 16002.	0.3	1
15	Design, fabrication and measurement of highly-dispersive mirrors with total internal reflection. Optics Express, 2020, 28, 29230.	3.4	3
16	On the Role of the Phase in Field-Resolved Spectroscopy of Molecular Vibrations. , 2019, , .		0
17	Field-Resolved Infrared Spectroscopy of Biological Samples. , 2019, , .		1
18	Field-Resolved Infrared Spectroscopy of Human Blood to Tackle Lung, Prostate and Breast Cancer Detection. , 2019, , .		1

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19	2/3 octave Si/SiO ₂ infrared dispersive mirrors open new horizons in ultrafast multilayer optics. Optics Express, 2019, 27, 55.	3.4	11
20	Comparative study of NIR-MIR beamsplitters based on ZnS/YbF ₃ and Ge/YbF ₃ . Optics Express, 2019, 27, 5557.	3.4	12
21	Cavity-enhanced noncollinear high-harmonic generation. Optics Express, 2019, 27, 19675.	3.4	7
22	Broadband dispersive Ge/YbF ₃ mirrors for mid-infrared spectral range. Optics Letters, 2019, 44, 5210.	3.3	9
23	Complementary Si/SiO ₂ dispersive mirrors for 2-4 μm spectral range. Optics Express, 2019, 27, 34901.	3.4	6
24	Multi-watt, multi-octave, mid-infrared femtosecond source. Science Advances, 2018, 4, eaaq1526.	10.3	86
25	Optical monitoring strategies for optical coating manufacturing. , 2018, , 65-101.		7
26	Relativistic few-cycle pulses with high contrast from picosecond-pumped OPCPA. Optica, 2018, 5, 434.	9.3	61
27	Nonlinear pulse compression in a gas-filled multipass cell. Optics Letters, 2018, 43, 2070.	3.3	62
28	Dielectric optical coatings at high peak intensities. , 2017, , .		0
29	Optical interference coating design contest 2016: a dispersive mirror and coating uniformity challenge. Applied Optics, 2017, 56, C151.	2.1	5
30	Synthesis, fabrication and characterization of a highly-dispersive mirrors for the 2 μm spectral range. Optics Express, 2017, 25, 10234.	3.4	12
31	Experimental and numerical study of the nonlinear response of optical multilayers. Optics Express, 2017, 25, 12675.	3.4	12
32	Compact and flexible harmonic generator and three-color synthesizer for femtosecond coherent control and time-resolved studies. Optics Express, 2017, 25, 31130.	3.4	12
33	Production of Brewster angle thin film polarizers using a ZrO ₂ /SiO ₂ pair of materials. Applied Optics, 2017, 56, C30.	2.1	33
34	Time resolved digital holography measurements of the nonlinear optical filters. , 2017, , .		2
35	Enhancement cavities for few-cycle pulses. Optics Letters, 2017, 42, 271.	3.3	27
36	Group delay dispersion measurements in the mid-infrared spectral range of 2-20 μm. Optics Express, 2016, 24, 16705.	3.4	15

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37	Kerr effect in multilayer dielectric coatings. Optics Express, 2016, 24, 21802.	3.4	20
38	Broadband beamsplitter for high intensity laser applications in the infra-red spectral range. Optics Express, 2016, 24, 16752.	3.4	11
39	Octave spanning wedge dispersive mirrors with low dispersion oscillations. Optics Express, 2016, 24, 9218.	3.4	3
40	Electro-optic sampling of near-infrared waveforms. Nature Photonics, 2016, 10, 159-162.	31.4	108
41	Broadband mid-infrared time-domain spectrometer for the molecular fingerprint region. , 2016, , .		1
42	Production of Brewster-angle Polarizers for 1054 and 1064 nm Wavelengths. , 2016, , .		0
43	Practical Approach for Deriving Optical Properties of Inhomogeneous Thin Films. , 2016, , .		0
44	Design, Production and Characterization of Mirrors for Ultra-Broadband, High-Finesse Enhancement Cavities. , 2016, , .		0
45	Characterization of Nonlinear Effects in Edge Filters. , 2016, , .		0
46	High-Reflectivity Mirrors for Tailoring Carrier-Envelope Phase Properties. , 2016, , .		0
47	Design of Optical Coatings with Optimized Absorptance in Individual Layers. , 2016, , .		0
48	High-power multi-megahertz source of waveform-stabilized few-cycle light. Nature Communications, 2015, 6, 6988.	12.8	63
49	Advantages and challenges of optical coating production with indirect monochromatic monitoring. Applied Optics, 2015, 54, 3433.	2.1	7
50	Automated construction of monochromatic monitoring strategies. Applied Optics, 2015, 54, 1900.	1.8	13
51	Sensitivity-directed refinement for designing broadband blocking filters. Optics Express, 2015, 23, 5565.	3.4	4
52	Enhancement cavities for zero-offset-frequency pulse trains. Optics Letters, 2015, 40, 2165.	3.3	20
53	Highly-dispersive mirrors reach new levels of dispersion. Optics Express, 2015, 23, 13788.	3.4	22
54	Nonlinear absorbance in dielectric multilayers. Optica, 2015, 2, 803.	9.3	24

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55	Design, production, and reverse engineering of a double sided innovative thin film laser element. Proceedings of SPIE, 2015, , .	0.8	1
56	Design and production of three line antireflection coatings for visible and far infrared spectral regions. , 2015, , .		3
57	Electro-optic Sampling of Mid-to-Near-Infrared Waveforms. , 2015, , .		0
58	Multilayer Optics for Ultrafast Applications. , 2015, , .		0
59	New Levels of Dispersion of Highly Dispersive Mirrors. , 2015, , .		0
60	Stress compensation with antireflection coatings for ultrafast laser applications: from theory to practice. Optics Express, 2014, 22, 30387.	3.4	15
61	Reliable optical characterization of e-beam evaporated TiO ₂ films deposited at different substrate temperatures. Applied Optics, 2014, 53, A8.	1.8	13
62	Reverse engineering of multilayer coatings for ultrafast laser applications. Applied Optics, 2014, 53, A114.	1.8	9
63	Optical Interference Coatings Design Contest 2013: angle-independent color mirror and shortwave infrared/midwave infrared dichroic beam splitter. Applied Optics, 2014, 53, A360.	1.8	11
64	Design, production and reverse engineering of ultra-steep hot mirrors. Optics Express, 2014, 22, 13448.	3.4	3
65	Design and production of antireflection coating for the 8â€“10 Åµm spectral region. Optics Express, 2014, 22, 32174.	3.4	16
66	Study of HfO ₂ /SiO ₂ dichroic laser mirrors with refractive index inhomogeneity. Applied Optics, 2014, 53, A56.	1.8	14
67	Nonlinear behavior and damage of dispersive multilayer optical coatings induced by two-photon absorption. Proceedings of SPIE, 2014, , .	0.8	6
68	Ultrafast optical breakdown of multilayer thin-films at kHz and MHz repetition rates: a direct comparison. Proceedings of SPIE, 2014, , .	0.8	4
69	Dispersive mirror technology for ultrafast lasers in the range 220â€“4500 nm. Advanced Optical Technologies, 2014, 3, 55-63.	1.7	30
70	Design and fabrication of ultra-steep notch filters. Optics Express, 2013, 21, 21523.	3.4	18
71	Optical breakdown of multilayer thin-films induced by ultrashort pulses at MHz repetition rates. Optics Express, 2013, 21, 31453.	3.4	28
72	Design of Multilayer Optical Coatings with High Stability to Refractive Index Variations. , 2013, , .		0

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73	Design of Optical Coatings Taking into Account Thin Film Inhomogeneity. , 2013, , .		1
74	Group Delay Dispersion Measurements with Resonance Scanning Interferometry. , 2013, , .		0
75	Design of Aperiodic Multilayers for EUV Applications. , 2013, , .		0
76	Reliable Characterization of e-beam Evaporated TiO ₂ Films. , 2013, , .		1
77	Measurements of the group delay and the group delay dispersion with resonance scanning interferometer. Optics Express, 2013, 21, 6658.	3.4	11
78	Quality control of oblique incidence optical coatings based on normal incidence measurement data. Optics Express, 2013, 21, 21508.	3.4	5
79	Design of Coatings in EUV, Soft X-ray and X-ray Spectral Regions. , 2013, , .		2
80	Investigation of temporal compression of few-cycle pulses from an ultrabroadband, multi-mJ optical parametric amplifier. , 2013, , .		1
81	Empirical study of the group delay dispersion achievable with multilayer mirrors. Optics Express, 2013, 21, 18311.	3.4	17
82	Reverse Engineering of an Output Coupler Using Broadband Monitoring Data and Group Delay Measurements. , 2013, , .		0
83	Study of the HfO ₂ /SiO ₂ dichroic laser mirrors having refractive index inhomogeneity. , 2013, , .		0
84	Maximum Group Delay Dispersion Achievable with Multilayer Dispersive Mirrors. , 2013, , .		0
85	Correlated Choice of Design and Monitoring Strategy. , 2013, , .		1
86	On the reliability of reverse engineering results. Applied Optics, 2012, 51, 5543.	1.8	19
87	Oscillations in spectral behavior of total losses ($1 - R \sim T$) in thin dielectric films. Optics Express, 2012, 20, 16129.	3.4	9
88	Optical characterization and reverse engineering based on multiangle spectroscopy. Applied Optics, 2012, 51, 245.	1.8	32
89	Modern design tools and a new paradigm in optical coating design. Applied Optics, 2012, 51, 7319.	1.8	61
90	Computational manufacturing as a key element in the designâ€“production chain for modern multilayer coatings. Applied Optics, 2012, 51, 7604.	1.8	20

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91	Computational manufacturing as a tool for the selection of the most manufacturable design. Applied Optics, 2012, 51, 8677.	1.8	10
92	High-dispersive mirrors for high power applications. Optics Express, 2012, 20, 4503.	3.4	36
93	Robust synthesis of dispersive mirrors. Proceedings of SPIE, 2011, , .	0.8	0
94	Investigation of the error self-compensation effect associated with broadband optical monitoring. Applied Optics, 2011, 50, C111.	2.1	36
95	Estimations of production yields for selection of a practical optimal optical coating design. Applied Optics, 2011, 50, C141.	2.1	8
96	Optical parameters of oxide films typically used in optical coating production. Applied Optics, 2011, 50, C75.	2.1	52
97	General approach to reliable characterization of thin metal films. Applied Optics, 2011, 50, 1453.	2.1	33
98	Comparison of algorithms used for optical characterization of multilayer optical coatings. Applied Optics, 2011, 50, 3389.	2.1	27
99	Comparison of two techniques for reliable characterization of thin metal dielectric films. Applied Optics, 2011, 50, 6189.	2.1	17
100	Design, production, and reverse engineering of two-octave antireflection coatings. Applied Optics, 2011, 50, 6468.	2.1	21
101	Robust synthesis of dispersive mirrors. Optics Express, 2011, 19, 2371.	3.4	43
102	Design and production of bicolour reflecting coatings with Au metal island films. Optics Express, 2011, 19, 25521.	3.4	16
103	Design of multilayer coatings containing metal island films. , 2011, , .		4
104	Design and monitoring approaches for the production of high quality optical coatings. , 2010, , .		0
105	Estimations of Production Yields for Choosing the Best Practical Design. , 2010, , .		0
106	Computational manufacturing of optical interference coatings: method, simulation results, and comparison with experiment. Applied Optics, 2010, 49, 3150.	2.1	30
107	Phase optimization of dispersive mirrors based on floating constants. Optics Express, 2010, 18, 27613.	3.4	13
108	Design and Production of Bandpass Filters with Steep Transmittance Slopes. , 2010, , .		1

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109	Robust Synthesis of Multilayer Coatings. , 2010, , .		5
110	Does Broadband Optical Monitoring Provide an Error Self-compensation Mechanism?. , 2010, , .		1
111	Design of dispersive mirrors for ultrafast applications. Chinese Optics Letters, 2010, 8, 12-17.	2.9	5
112	Computational Manufacturing Experiments for Choosing Optimal Design and Monitoring Strategy. , 2010, , .		1
113	On the Reliability of Computational Estimations Used for Choosing the Most Manufacturable Design. , 2010, , .		0
114	Application of Indirect Broadband Optical Monitoring for the Production of Three-Line Minus Filters. , 2010, , .		0
115	Study of the feasibility of optical coatings with a continuous refractive index profile. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2009, 64, 155-160.	0.4	1
116	Comparison of dispersive mirrors based on the time-domain and conventional approaches, for sub-5-fs pulses. Optics Express, 2009, 17, 2207.	3.4	30
117	Double-angle multilayer mirrors with smooth dispersion characteristics. Optics Express, 2009, 17, 7943.	3.4	81
118	Measurement of group delay of dispersive mirrors with white-light interferometer. Applied Optics, 2009, 48, 949.	2.1	47
119	Indirect broadband optical monitoring with multiple witness substrates. Applied Optics, 2009, 48, 2315.	2.1	13
120	Estimation of the average residual reflectance of broadband antireflection coatings. Applied Optics, 2008, 47, C124.	2.1	47
121	In situ optical characterization and reengineering of interference coatings. Applied Optics, 2008, 47, C49.	2.1	30
122	Application of constrained optimization to the design of quasi-rugate optical coatings. Applied Optics, 2008, 47, 5103.	2.1	14
123	Time-domain approach for designing dispersive mirrors based on the needle optimization technique Theory. Optics Express, 2008, 16, 20637.	3.4	23
124	Estimation for the number of layers of broad band anti-reflection coatings. , 2008, , .		2
125	Achievements and Challenges in the Design and Production of High Quality Optical Coatings. IEICE Transactions on Electronics, 2008, E91-C, 1622-1629.	0.6	6
126	Design Opportunities for Better Manufacturability. , 2007, , WA2.		0

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127	Advanced Dispersive Optics for the VIS-IR Range. , 2007, , WA9.		0
128	Theoretical Notes on One Magic Reflectance Value. , 2007, , WB3.		0
129	Modern status and prospects of the development of methods of designing multilayer optical coatings. Journal of Optical Technology (A Translation of Opticheskii Zhurnal), 2007, 74, 845.	0.4	9
130	Band filters: two-material technology versus rugate. Applied Optics, 2007, 46, 1190.	2.1	23
131	Elimination of cumulative effect of thickness errors in monochromatic monitoring of optical coating production: theory. Applied Optics, 2007, 46, 2084.	2.1	24
132	Computational experiments on optical coating production using monochromatic monitoring strategy aimed at eliminating a cumulative effect of thickness errors. Applied Optics, 2007, 46, 6936.	2.1	11
133	1.5-octave chirped mirror for pulse compression down to sub-3Âfs. Applied Physics B: Lasers and Optics, 2007, 87, 5-12.	2.2	115
134	Pre-Production Analysis of Optical Coating Manufacturability. , 2007, , .		2
135	Reverse Engineering of Fabricated Coatings Using Off-Line and On-Line Photometric Data. , 2007, , .		2
136	Design, Fabrication and Reverse Engineering of Broad Band Chirped Mirrors. , 2007, , .		2
137	Design of Multilayer Coatings with Specific Angular Dependencies of Color Properties. , 2007, , .		1
138	On-line Re-engineering of Interference Coatings. , 2007, , .		0
139	Monitoring Strategy Combining the Advantages of Direct and Indirect Optical Monitoring. , 2007, , .		0
140	Structural Properties of Antireflection Coatings. , 2007, , .		2
141	Optical Characterization of Thin Metal Films. , 2007, , .		1
142	New optimization algorithm for the synthesis of rugate optical coatings. Applied Optics, 2006, 45, 1515.	2.1	43
143	Optical coating design algorithm based on the equivalent layers theory. Applied Optics, 2006, 45, 1530.	2.1	3
144	Investigation of the effect of accumulation of thickness errors in optical coating production by broadband optical monitoring. Applied Optics, 2006, 45, 7026.	2.1	65

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145	Statistical approach to choosing a strategy of monochromatic monitoring of optical coating production. Applied Optics, 2006, 45, 7863.	2.1	32
146	Linear optical properties in the projector-augmented wave methodology. Physical Review B, 2006, 73, .	3.2	2,450
147	Two-component periodic layered structures for elastic wave attenuation. Waves in Random and Complex Media, 2006, 16, 457-471.	2.7	0
148	Computational manufacturing as a bridge between design and production. Applied Optics, 2005, 44, 6877.	2.1	62
149	Hybrid optical coating design for omnidirectional antireflection purposes. Journal of Optics, 2005, 7, L9-L12.	1.5	24
150	Online characterization and reoptimization of optical coatings. , 2004, , .		32
151	Optical metrology of thin films using high-accuracy spectrophotometric measurements with oblique angles of incidence. , 2004, 5250, 234.		4
152	Investigations in the nonlinear behavior of dielectrics by using ultrashort pulses (Best Oral) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 462 Td		19
153	Key role of the coating total optical thickness in solving design problems. , 2004, 5250, 312.		24
154	Accurate formulas for estimating the effect of surface micro-roughness on ellipsometric angles of dielectric thin films. , 2004, , .		0
155	Effects of interface roughness on the spectral properties of thin films and multilayers. Applied Optics, 2003, 42, 5140.	2.1	29
156	Reliable determination of wavelength dependence of thin film refractive index. , 2003, , .		6
157	Application of advanced optimization concepts to the design of high quality optical coatings. , 2003, , .		4
158	On the accuracy of optical thin film parameter determination based on spectrophotometric data. , 2003, , .		14
159	Effect of systematic errors in spectral photometric data on the accuracy of determination of optical parameters of dielectric thin films. Applied Optics, 2002, 41, 2555.	2.1	37
160	Topical Meeting on Optical interference Coatings (OICâ€™2001): design contest results. Applied Optics, 2002, 41, 3022.	2.1	20
161	Automated design and sensitivity analysis of wavelength-division multiplexing filters. Applied Optics, 2002, 41, 3176.	2.1	39
162	Phase properties of WDM filters. , 2001, , WD5.		1

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163	Investigation of the surface micro-roughness of fluoride films by spectroscopic ellipsometry. Thin Solid Films, 2001, 397, 229-237.	1.8	16
164	Real-Time characterization and optimization of e-beam evaporated optical coatings. , 2001, , .		5
165	Negative dispersion mirrors for dispersion control in femtosecond lasers: chirped dielectric mirrors and multi-cavity Gires-Tournois interferometers. Applied Physics B: Lasers and Optics, 2000, 70, S51-S57.	2.2	67
166	<title>Application of the needle optimization technique to the design of x-ray mirrors</title>. , 1999, , .		4
167	<title>Sensitivity of the ellipsometric angles psi and delta to the surface inhomogeneity</title>. , 1999, , .		9
168	<title>Ellipsometric study of optical properties and small inhomogeneities of Nb ₂ O ₅ films</title>. , 1999, , .		3
169	<title>Push-button technology in optical coating design: pro et contra</title>. , 1999, , .		1
170	<title>Designing of coatings for femtosecond lasers with phase derivative targets</title>. , 1999, , .		5
171	<title>Optimal design of graded x-ray multilayer mirrors in the angular and spectral domains</title>. , 1999, 3766, 320.		2
172	Spectroscopic ellipsometry of slightly inhomogeneous nonabsorbing thin films with arbitrary refractive-index profiles: theoretical study. Applied Optics, 1998, 37, 5902.	2.1	21
173	Design of coatings for wide angular range applications. , 1997, , .		3
174	Efficient refinement of inhomogeneous optical coatings: synthesis by simultaneous thickness and refractive-index optimization. , 1997, , .		3
175	Efficient refinement algorithm for the synthesis of inhomogeneous optical coatings. Applied Optics, 1997, 36, 1487.	2.1	29
176	Influence of small inhomogeneities on the spectral characteristics of single thin films. Applied Optics, 1997, 36, 7188.	2.1	60
177	Optimal single-band normal-incidence antireflection coatings. Applied Optics, 1996, 35, 644.	2.1	95
178	Application of the needle optimization technique to the design of optical coatings. Applied Optics, 1996, 35, 5493.	2.1	251
179	Characterization of quasi-rugate filters using ellipsometric measurements. Thin Solid Films, 1996, 277, 83-89.	1.8	13
180	Study of thin film inhomogeneity with a fast-scanning acousto-optic spectrophotometer. , 1996, , .		1

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181	Design of multilayers featuring inhomogenous coating properties. , 1996, 2776, 48.		3
182	Development of the needle optimization technique and new features of OptiLayer design software. , 1994, 2253, 10.		14
183	<title>Use of a new synthesis algorithm to design polarization insensitive optical coatings</title>. , 1994, 2262, 187.		0
184	Optimization of color properties of multielement optical lenses. , 1993, , .		0
185	<title>Program package for the ellipsometry of inhomogeneous layers</title>. , 1993, , .		3
186	Thin-film coatings design using second-order optimization methods. , 1993, 1782, 156.		4
187	Application of the incomplete Galerkin method to solve problems of diffraction of electromagnetic waves by a non-uniform cylinder. USSR Computational Mathematics and Mathematical Physics, 1990, 30, 179-190.	0.0	0
188	Optimization of the shape of the periodic interface between two homogeneous media with different permittivities. USSR Computational Mathematics and Mathematical Physics, 1989, 29, 52-57.	0.0	0
189	The problem of reducing the acoustic roar in the passenger compartment of an automobile. USSR Computational Mathematics and Mathematical Physics, 1988, 28, 162-169.	0.0	0
190	Mathematical modeling of a production process. USSR Computational Mathematics and Mathematical Physics, 1983, 23, 106-113.	0.0	0
191	A New Approximation Method in the Problem of Many Electrons. Journal of Chemical Physics, 1935, 3, 61-61.	3.0	416
192	Thin film telecommunication filters: automated design and pre-production analysis of WDM filters. , 0, , .		1