

# Mher Ghulinyan

## List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/906329/publications.pdf>

Version: 2024-02-01

144  
papers

2,831  
citations

201575

27  
h-index

197736

49  
g-index

147  
all docs

147  
docs citations

147  
times ranked

2759  
citing authors

#	ARTICLE	IF	CITATIONS
1	Second-harmonic generation in silicon waveguides strained by silicon nitride. <i>Nature Materials</i> , 2012, 11, 148-154.	13.3	280
2	Optical Analogue of Electronic Bloch Oscillations. <i>Physical Review Letters</i> , 2003, 91, 263902.	2.9	245
3	Optical Necklace States in Anderson Localized 1D Systems. <i>Physical Review Letters</i> , 2005, 94, 113903.	2.9	177
4	Porous silicon-based rugate filters. <i>Applied Optics</i> , 2005, 44, 5415.	2.1	143
5	Zener Tunneling of Light Waves in an Optical Superlattice. <i>Physical Review Letters</i> , 2005, 94, 127401.	2.9	126
6	Free-standing porous silicon single and multiple optical cavities. <i>Journal of Applied Physics</i> , 2003, 93, 9724-9729.	1.1	124
7	Optical necklace states in Anderson localized 1D systems. , 2006, , .		106
8	Light-pulse propagation in Fibonacci quasicrystals. <i>Physical Review B</i> , 2005, 71, .	1.1	65
9	Optical switching by capillary condensation. <i>Nature Photonics</i> , 2007, 1, 172-175.	15.6	64
10	Porous silicon free-standing coupled microcavities. <i>Applied Physics Letters</i> , 2003, 82, 1550-1552.	1.5	59
11	Whispering-gallery modes and light emission from a Si-nanocrystal-based single microdisk resonator. <i>Optics Express</i> , 2008, 16, 13218.	1.7	54
12	Second-Order Optical Nonlinearity in Silicon Waveguides: Inhomogeneous Stress and Interfaces. <i>Advanced Optical Materials</i> , 2015, 3, 129-136.	3.6	53
13	Optics of nanostructured dielectrics. <i>Journal of Optics</i> , 2005, 7, S190-S197.	1.5	49
14	A SiON Microring Resonator-Based Platform for Biosensing at 850 nm. <i>Journal of Lightwave Technology</i> , 2016, 34, 969-977.	2.7	48
15	Intermodal four-wave mixing in silicon waveguides. <i>Photonics Research</i> , 2018, 6, 805.	3.4	45
16	Monolithic Whispering-Gallery Mode Resonators With Vertically Coupled Integrated Bus Waveguides. <i>IEEE Photonics Technology Letters</i> , 2011, 23, 1166-1168.	1.3	42
17	High-frequency electro-optic measurement of strained silicon racetrack resonators. <i>Optics Letters</i> , 2015, 40, 5287.	1.7	40
18	Room temperature infrared photoresponse of self assembled Ge/Si (001) quantum dots grown by molecular beam epitaxy. <i>Applied Physics Letters</i> , 2010, 96, .	1.5	39

#	ARTICLE	IF	CITATIONS
19	Fabrication and optimization of rugate filters based on porous silicon. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 3227-3231.	0.8	38
20	Oscillatory Vertical Coupling between a Whispering-Gallery Resonator and a Bus Waveguide. <i>Physical Review Letters</i> , 2013, 110, 163901.	2.9	38
21	On the origin of second harmonic generation in silicon waveguides with silicon nitride cladding. <i>Scientific Reports</i> , 2019, 9, 1088.	1.6	38
22	A fully integrated high-Q Whispering-Gallery Wedge Resonator. <i>Optics Express</i> , 2012, 20, 22934.	1.7	36
23	Photon energy lifter. <i>Optics Express</i> , 2006, 14, 7270.	1.7	34
24	Wave transport in random systems: Multiple resonance character of necklace modes and their statistical behavior. <i>Physical Review E</i> , 2006, 74, 035602.	0.8	34
25	Stabilized porous silicon optical superlattices with controlled surface passivation. <i>Applied Physics Letters</i> , 2008, 93, 061113.	1.5	34
26	Electrical conductivity mechanisms in porous silicon. <i>Physica Status Solidi A</i> , 2003, 197, 462-466.	1.7	33
27	Noise Spectroscopy of Gas Sensors. <i>IEEE Sensors Journal</i> , 2008, 8, 786-790.	2.4	32
28	Scattering rings in optically anisotropic porous silicon. <i>Applied Physics Letters</i> , 2002, 81, 4919-4921.	1.5	27
29	Thermo-optic coefficient and nonlinear refractive index of silicon oxynitride waveguides. <i>AIP Advances</i> , 2018, 8, .	0.6	26
30	Wide-band transmission of nondistorted slow waves in one-dimensional optical superlattices. <i>Applied Physics Letters</i> , 2006, 88, 241103.	1.5	25
31	Optical gain in dye-impregnated oxidized porous silicon waveguides. <i>Applied Physics Letters</i> , 2006, 89, 011107.	1.5	24
32	Multilayer Ge nanocrystals embedded within Al <sub>2</sub> O <sub>3</sub> matrix for high performance floating gate memory devices. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	24
33	Fractal model of a porous semiconductor. <i>Applied Surface Science</i> , 2000, 162-163, 122-132.	3.1	23
34	Two-dimensional micro-Raman mapping of stress and strain distributions in strained silicon waveguides. <i>Semiconductor Science and Technology</i> , 2012, 27, 085009.	1.0	23
35	Intermode reactive coupling induced by waveguide-resonator interaction. <i>Physical Review A</i> , 2014, 90, .	1.0	23
36	Probing the Spontaneous Emission Dynamics in Si-Nanocrystals-Based Microdisk Resonators. <i>Physical Review Letters</i> , 2010, 104, 103901.	2.9	22

#	ARTICLE	IF	CITATIONS
37	Thermo-optical bistability with Si nanocrystals in a whispering gallery mode resonator. <i>Optics Letters</i> , 2013, 38, 3562.	1.7	21
38	Microstructural, chemical bonding, stress development and charge storage characteristics of Ge nanocrystals embedded in hafnium oxide. <i>Journal of Nanoparticle Research</i> , 2011, 13, 587-595.	0.8	20
39	Silicon nanocrystals for nonlinear optics and secure communications. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2015, 212, 2659-2671.	0.8	20
40	Periodic Oscillations in Transmission Decay of Anderson Localized One-Dimensional Dielectric Systems. <i>Physical Review Letters</i> , 2007, 99, 063905.	2.9	19
41	Role of Edge Inclination in an Optical Microdisk Resonator for Label-Free Sensing. <i>Sensors</i> , 2015, 15, 4796-4809.	2.1	19
42	Unidirectional reflection from an integrated $\epsilon$ -microresonator. <i>Photonics Research</i> , 2020, 8, 1333.	3.4	19
43	Second-harmonic generation in periodically poled silicon waveguides with lateral p-i-n junctions. <i>Optics Letters</i> , 2020, 45, 3188.	1.7	17
44	Silicon oxynitride waveguides as evanescent-field-based fluorescent biosensors. <i>Journal Physics D: Applied Physics</i> , 2014, 47, 405401.	1.3	16
45	Light Localisation and Lasing. , 2014, , .		16
46	Ultra-high-Q thin-silicon nitride strip-loaded ring resonators. <i>Optics Letters</i> , 2015, 40, 3316.	1.7	15
47	Scattering rings as a tool for birefringence measurements in porous silicon. <i>Journal of Applied Physics</i> , 2003, 94, 6334-6340.	1.1	14
48	Enhancement of photoluminescence intensity of erbium doped silica containing Ge nanocrystals: distance dependent interactions. <i>Nanotechnology</i> , 2015, 26, 045202.	1.3	14
49	Low-frequency noise in structures with porous silicon in different gas media. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2007, 4, 2063-2067.	0.8	13
50	Photophysics of resonantly and non-resonantly excited erbium doped Ge nanowires. <i>Nanotechnology</i> , 2012, 23, 065702.	1.3	13
51	Homodyne Detection of Free Carrier Induced Electro-Optic Modulation in Strained Silicon Resonators. <i>Journal of Lightwave Technology</i> , 2016, 34, 5657-5668.	2.7	13
52	Nonlinearity-Induced Reciprocity Breaking in a Single Nonmagnetic Taiji Resonator. <i>Physical Review Applied</i> , 2021, 15, .	1.5	13
53	Tuning of resonant Zener tunneling by vapor diffusion and condensation in porous optical superlattices. <i>Physical Review B</i> , 2006, 74, .	1.1	11
54	Formation of optimal-order necklace modes in one-dimensional random photonic superlattices. <i>Physical Review A</i> , 2007, 76, .	1.0	11

#	ARTICLE	IF	CITATIONS
55	Formation of Mach angle profiles during wet etching of silica and silicon nitride materials. Applied Surface Science, 2015, 359, 679-686.	3.1	11
56	A silicon source of heralded single photons at $2 \times 10^4$ m. APL Photonics, 2021, 6, 126103.	3.0	11
57	Polymeric waveguides using oxidized porous silicon cladding for optical amplification. Optical Materials, 2009, 31, 1488-1491.	1.7	10
58	Whispering-gallery mode micro-ring resonators. Optics Express, 2009, 17, 9434.	1.7	10
59	Silicon Photonics Chip for Inter-modal Four Wave Mixing on a Broad Wavelength Range. Frontiers in Physics, 2019, 7, .	1.0	10
60	Current-voltage and low-frequency noise characteristics of structures with porous silicon layers exposed to different gases. Physica E: Low-Dimensional Systems and Nanostructures, 2007, 38, 160-163.	1.3	9
61	A new aptamer immobilization strategy for protein recognition. Sensors and Actuators B: Chemical, 2017, 252, 222-231.	4.0	9
62	Complete crossing of Fano resonances in an optical microcavity via nonlinear tuning. Photonics Research, 2017, 5, 168.	3.4	9
63	Top-down convergence of near-infrared photonics with silicon substrate-integrated electronics. Optica, 2021, 8, 1363.	4.8	9
64	MBE-grown Si and Si <sub>1-x</sub> Ge <sub>x</sub> quantum dots embedded within epitaxial Gd <sub>2</sub> O <sub>3</sub> on Si(111) substrate for floating gate memory device. Nanotechnology, 2013, 24, 505709.	1.3	8
65	Field-Induced Nonlinearities in Silicon Waveguides Embedded in Lateral p-n Junctions. Frontiers in Physics, 2019, 7, .	1.0	8
66	Hermitian and Non-Hermitian Mode Coupling in a Microdisk Resonator Due to Stochastic Surface Roughness Scattering. IEEE Photonics Journal, 2019, 11, 1-14.	1.0	8
67	Structural properties of porous media. Physica Status Solidi A, 2003, 197, 419-424.	1.7	7
68	Silicon solar cells with nano-crystalline silicon down shifter: experiment and modeling. Proceedings of SPIE, 2010, , .	0.8	7
69	Direct band gap optical emission from compressively strained Ge films grown on relaxed Si <sub>0.5</sub> Ge <sub>0.5</sub> substrate. Applied Physics Letters, 2013, 103, .	1.5	7
70	Tuning the strain-induced resonance shift in silicon racetrack resonators by their orientation. Optics Express, 2018, 26, 4204.	1.7	7
71	ON THE FRACTAL MODEL OF THE POROUS LAYER FORMATION. Modern Physics Letters B, 2000, 14, 39-46.	1.0	6
72	Structural analyses of thermal annealed SRO/SiO <sub>2</sub> superlattices. Surface and Interface Analysis, 2010, 42, 842-845.	0.8	6

#	ARTICLE	IF	CITATIONS
73	Integrated silicon photodetector for lab-on-chip sensor platform. , 2015, , .		6
74	Wavelength Dependence of a Vertically Coupled Resonator-Waveguide System. Journal of Lightwave Technology, 2016, 34, 5385-5390.	2.7	6
75	Stimulated degenerate four-wave mixing in Si nanocrystal waveguides. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT /Overloct	1.0	6
76	Permanent mitigation of loss in ultrathin silicon-on-insulator high-Q resonators using ultraviolet light. Optica, 2018, 5, 1271.	4.8	6
77	Multi-mode interference revealed by two photon absorption in silicon rich SiO2 waveguides. Applied Physics Letters, 2015, 106, .	1.5	5
78	Force modulation microscopy of multilayered porous silicon samples. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 1492-1496.	0.8	4
79	Dynamics of capillary condensation in bistable optical superlattices. Physical Review B, 2008, 77, .	1.1	4
80	Development and optical characterization of vertical tapers in SiON waveguides using gray-scale lithography. Proceedings of SPIE, 2011, , .	0.8	4
81	Analysis of control and sensing interfaces in a photonic integrated chip solution for quantum computing. , 2020, , .		4
82	Electro-and photoluminescence in graded bandgap nanostructures at moderate double-injection level. , 1999, 3790, 55.		3
83	Porous silicon-based notch filters and waveguides. , 2005, , .		3
84	Microring Resonators and Silicon Photonics. MRS Advances, 2016, 1, 3281-3293.	0.5	3
85	Broad wavelength generation and conversion with multi modal Four Wave Mixing in silicon waveguides. , 2017, , .		3
86	Influence of the bus waveguide on the linear and nonlinear response of a tajji microresonator. Optics Express, 2021, 29, 29615.	1.7	3
87	Electric field-induced second harmonic generation in silicon waveguide by interdigitated contacts. , 2020, , .		3
88	Electro- and Photoluminescence in Graded-Gap Structures with Double Injection. Physica Status Solidi A, 1998, 165, 135-139.	1.7	2
89	Time resolved optical Bloch oscillations in porous silicon superlattice structures. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3283-3287.	0.8	2
90	Optical gain in dye-doped polymer waveguides using oxidized porous silicon cladding. , 2007, , .		2

#	ARTICLE	IF	CITATIONS
91	Vapor control of resonant Zener tunneling of light in a photonic crystal. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 1351-1355.	0.8	2
92	Multilayer silicon rich oxy-nitride films characterization by SIMS, VASE and AFM. Journal of Physics: Conference Series, 2008, 100, 012016.	0.3	2
93	Preparation and Characterization of Nanocrystals using Ellipsometry and X-ray Diffraction. ECS Transactions, 2009, 25, 373-378.	0.3	2
94	Continuous wave spectroscopy of nonlinear dynamics of Si nanocrystals in a microdisk resonator. Physical Review B, 2011, 84, .	1.1	2
95	From SHG to mid-infrared SPDC generation in strained silicon waveguides. , 2017, , .		2
96	Are on-chip heralded single photon sources possible by intermodal four wave mixing in silicon waveguides?. , 2018, , .		2
97	An integrated optical biosensor platform. SPIE Newsroom, 0, , .	0.1	2
98	Space based lasers for gravitational wave detection. , 2019, , .		2
99	Analysis of Photodiode Sensing Devices in a Photonic Integrated Chip solution for Quantum Computing. , 2020, , .		2
100	Coupling of Photonic Waveguides to Integrated Detectors Using 3D Inverse Tapering. Journal of Lightwave Technology, 2022, 40, 6201-6206.	2.7	2
101	Role of microstructure and layer thickness in porous silicon conductometric gas sensors. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 1467-1471.	0.8	1
102	Noise spectroscopy of porous silicon gas sensors. Proceedings of SPIE, 2008, , .	0.8	1
103	Porous Multilayers as a Dielectric Host for Photons Manipulation. ECS Transactions, 2009, 16, 307-321.	0.3	1
104	Silicon-based monolithically integrated whispering-gallery mode resonators with buried waveguides. , 2012, , .		1
105	Silicon-based monolithically integrated whispering-gallery mode resonators. Proceedings of SPIE, 2013, , .	0.8	1
106	Monolithic integration of high-Q wedge resonators with vertically coupled waveguides. , 2013, , .		1
107	Mid-infrared difference-frequency generation in silicon waveguides strained by silicon nitride. , 2013, , .		1
108	One-dimensional photonic quasicrystals. , 0, , 99-129.		1

#	ARTICLE	IF	CITATIONS
109	Integrated silicon photodetector for lab-on-chip sensor platforms. Proceedings of SPIE, 2015, , .	0.8	1
110	Oblique beams interference for mode selection in multimode silicon waveguides. Journal of Applied Physics, 2017, 122, 113106.	1.1	1
111	Towards MIR SPDC generation in strained silicon waveguides. , 2017, , .		1
112	Second-harmonic generation in periodically poled silicon waveguides with lateral p-i-n junctions: publisher's note. Optics Letters, 2020, 45, 3348.	1.7	1
113	Second-order nonlinear silicon photonics. SPIE Newsroom, 0, , .	0.1	1
114	Light Transport in Complex Photonic Systems. , 2003, , 2-20.		0
115	Light transport through porous silicon coupled microcavities. , 0, , .		0
116	Zener tunneling of light in an optical superlattice. Materials Research Society Symposia Proceedings, 2004, 829, 295.	0.1	0
117	Bloch oscillations and resonant Zener tunneling of light in optical superlattices (Invited Paper). , 2005, 5840, 421.		0
118	Broken symmetry in photonic crystals: resonant Zener tunneling of light waves. , 2006, , ThD4.		0
119	Optical gain in oxidized porous silicon waveguides impregnated with a laser dye. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2145-2149.	0.8	0
120	Waveguiding, absorption and emission properties of dye-impregnated oxidized porous silicon. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 1502-1506.	0.8	0
121	Whispering-gallery modes and Purcell effect in a Si-nanocrystal-based single microdisk resonator. , 2008, , .		0
122	Study of crystallization and phase mixing in SiO <sub>2</sub> /SiO <sub>x</sub> superlattices through form birefringence measurements. Proceedings of SPIE, 2008, , .	0.8	0
123	Periodically oscillating Anderson localization in random photonic superlattices with resonant units. , 2008, , .		0
124	Silicon quantum dots in microdisk resonators: whispering-gallery modes, stress-induced Q-factor tuning and enhancement. , 2009, , .		0
125	Stabilization of Porous Silicon Free-Standing Coupled Optical Microcavities by Surface Chemical Modification. ECS Transactions, 2009, 16, 211-219.	0.3	0
126	Q-factor tuning in all-active whispering-gallery mode resonators with Si-nc. , 2009, , .		0



#	ARTICLE	IF	CITATIONS
127	Silicon quantum dots in microdisk resonators: Stress-engineering of disk core for q-factor tuning and enhancement. , 2009, , .		0
128	Second-order susceptibility $\chi^{(2)}$ in Si waveguides. , 2011, , .		0
129	Off-diagonal photonic Lamb shift in reactively coupled waveguide-resonator system. Proceedings of SPIE, 2015, , .	0.8	0
130	High frequency electro-optic measurement of strained silicon racetrack resonators. , 2016, , .		0
131	Time resolved electro-optic measurements in strained silicon racetrack resonators. , 2016, , .		0
132	Robust Geometries for Second-Harmonic-Generation in Microrings Exhibiting a 4-Bar Symmetry. Applied Sciences (Switzerland), 2020, 10, 9047.	1.3	0
133	Electric Field Induced Second Harmonic Generation In Silicon Waveguides: the role of the disorder. , 2021, , .		0
134	Role of the bus waveguide in the nonlinear reciprocity breaking in a Taiji microresonator. , 2021, , .		0
135	Scattering Rings in Birefringent Porous Silicon. Materials Research Society Symposia Proceedings, 2003, 762, 17171.	0.1	0
136	Transport of optical waves in partially ordered materials. , 2004, , .		0
137	Spontaneous emission dynamics and Purcell enhancement in Si-nc-based microdisk resonators. , 2010, , .		0
138	Design of Composite and Multi-Component One-Dimensional Photonic Crystal Structures Based on Silicon. , 2014, , 469-542.		0
139	Nonlinear Silicon Photonics. , 2015, , .		0
140	Intermodal four wave mixing in silicon waveguides for on-chip wavelength conversion and generation (Conference Presentation). , 2018, , .		0
141	Towards MIR heralded photons via intermodal four wave mixing in silicon waveguides. , 2019, , .		0
142	Second order nonlinearities in silicon waveguides: from the physics to new applications (Conference) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50		0
143	Intermodal four-wave mixing for heralded single-photon sources in the MIR (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50		0
144	Mid infrared heralded single photons on a silicon chip. , 2020, , .		0