

# Mher Ghulinyan

## List of Publications by Year in descending order

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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	Coupling of Photonic Waveguides to Integrated Detectors Using 3D Inverse Tapering. Journal of Lightwave Technology, 2022, 40, 6201-6206.	2.7	2
2	Nonlinearity-Induced Reciprocity Breaking in a Single Nonmagnetic Taiji Resonator. Physical Review Applied, 2021, 15, .	1.5	13
3	Electric Field Induced Second Harmonic Generation In Silicon Waveguides: the role of the disorder. , 2021, , .		0
4	Role of the bus waveguide in the nonlinear reciprocity breaking in a Taiji microresonator. , 2021, , .		0
5	Influence of the bus waveguide on the linear and nonlinear response of a taiji microresonator. Optics Express, 2021, 29, 29615.	1.7	3
6	Top-down convergence of near-infrared photonics with silicon substrate-integrated electronics. Optica, 2021, 8, 1363.	4.8	9
7	A silicon source of heralded single photons at 2 $\times 1/4$ $\mu$ m. APL Photonics, 2021, 6, 126103.	3.0	11
8	Robust Geometries for Second-Harmonic-Generation in Microrings Exhibiting a 4-Bar Symmetry. Applied Sciences (Switzerland), 2020, 10, 9047.	1.3	0
9	Electric field-induced second harmonic generation in silicon waveguide by interdigitated contacts. , 2020, , .		3
10	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
11	Unidirectional reflection from an integrated $\omega$ -taiji-microresonator. Photonics Research, 2020, 8, 1333.	3.4	19
12	Intermodal four-wave mixing for heralded single-photon sources in the MIR (Conference) Tj ETQqO 0 0 rgBT /Overlock 10 Tf 5Q 302 Td (F		
13	Analysis of control and sensing interfaces in a photonic integrated chip solution for quantum computing. , 2020, , .		4
14	Second-harmonic generation in periodically poled silicon waveguides with lateral p-i-n junctions. Optics Letters, 2020, 45, 3188.	1.7	17
15	Mid infrared heralded single photons on a silicon chip. , 2020, , .		0
16	Analysis of Photodiode Sensing Devices in a Photonic Integrated Chip solution for Quantum Computing. , 2020, , .		2
17	Field-Induced Nonlinearities in Silicon Waveguides Embedded in Lateral p-n Junctions. Frontiers in Physics, 2019, 7, .	1.0	8
18	On the origin of second harmonic generation in silicon waveguides with silicon nitride cladding. Scientific Reports, 2019, 9, 1088.	1.6	38

#	ARTICLE	IF	CITATIONS
19	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
20	Silicon Photonics Chip for Inter-modal Four Wave Mixing on a Broad Wavelength Range. Frontiers in Physics, 2019, 7, .	1.0	10
21	Space based lasers for gravitational wave detection. , 2019, , .		2
22	Towards MIR heralded photons via intermodal four wave mixing in silicon waveguides. , 2019, , .		0
23	Second order nonlinearities in silicon waveguides: from the physics to new applications (Conference) Tj ETQq1 1 0.784314 rgBT /Over		0
24	Thermo-optic coefficient and nonlinear refractive index of silicon oxynitride waveguides. AIP Advances, 2018, 8, .	0.6	26
25	Intermodal four-wave mixing in silicon waveguides. Photonics Research, 2018, 6, 805.	3.4	45
26	Tuning the strain-induced resonance shift in silicon racetrack resonators by their orientation. Optics Express, 2018, 26, 4204.	1.7	7
27	Are on-chip heralded single photon sources possible by intermodal four wave mixing in silicon waveguides?. , 2018, , .		2
28	Permanent mitigation of loss in ultrathin silicon-on-insulator high-Q resonators using ultraviolet light. Optica, 2018, 5, 1271.	4.8	6
29	Intermodal four wave mixing in silicon waveguides for on-chip wavelength conversion and generation (Conference Presentation). , 2018, , .		0
30	A new aptamer immobilization strategy for protein recognition. Sensors and Actuators B: Chemical, 2017, 252, 222-231.	4.0	9
31	Oblique beams interference for mode selection in multimode silicon waveguides. Journal of Applied Physics, 2017, 122, 113106.	1.1	1
32	Towards MIR SPDC generation in strained silicon waveguides. , 2017, , .		1
33	Broad wavelength generation and conversion with multi modal Four Wave Mixing in silicon waveguides. , 2017, , .		3
34	Complete crossing of Fano resonances in an optical microcavity via nonlinear tuning. Photonics Research, 2017, 5, 168.	3.4	9
35	From SHG to mid-infrared SPDC generation in strained silicon waveguides. , 2017, , .		2
36	Microring Resonators and Silicon Photonics. MRS Advances, 2016, 1, 3281-3293.	0.5	3

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37	High frequency electro-optic measurement of strained silicon racetrack resonators. , 2016, , .		0
38	Wavelength Dependence of a Vertically Coupled Resonator-Waveguide System. Journal of Lightwave Technology, 2016, 34, 5385-5390.	2.7	6
39	Homodyne Detection of Free Carrier Induced Electro-Optic Modulation in Strained Silicon Resonators. Journal of Lightwave Technology, 2016, 34, 5657-5668.	2.7	13
40	Time resolved electro-optic measurements in strained silicon racetrack resonators. , 2016, , .		0
41	Stimulated degenerate four-wave mixing in Si nanocrystal waveguides. Journal of Optics (United) Tj ETQq1 1 0.784314 rgBT (Overlock 1	1.0	6
42	A SiON Microring Resonator-Based Platform for Biosensing at 850 nm. Journal of Lightwave Technology, 2016, 34, 969-977.	2.7	48
43	Silicon nanocrystals for nonlinear optics and secure communications. Physica Status Solidi (A) Applications and Materials Science, 2015, 212, 2659-2671.	0.8	20
44	Integrated silicon photodetector for lab-on-chip sensor platforms. Proceedings of SPIE, 2015, , .	0.8	1
45	Off-diagonal photonic Lamb shift in reactively coupled waveguide-resonator system. Proceedings of SPIE, 2015, , .	0.8	0
46	High-frequency electro-optic measurement of strained silicon racetrack resonators. Optics Letters, 2015, 40, 5287.	1.7	40
47	Enhancement of photoluminescence intensity of erbium doped silica containing Ge nanocrystals: distance dependent interactions. Nanotechnology, 2015, 26, 045202.	1.3	14
48	Integrated silicon photodetector for lab-on-chip sensor platform. , 2015, , .		6
49	Role of Edge Inclination in an Optical Microdisk Resonator for Label-Free Sensing. Sensors, 2015, 15, 4796-4809.	2.1	19
50	Multi-mode interference revealed by two photon absorption in silicon rich SiO2 waveguides. Applied Physics Letters, 2015, 106, .	1.5	5
51	Ultra-high-Q thin-silicon nitride strip-loaded ring resonators. Optics Letters, 2015, 40, 3316.	1.7	15
52	Multilayer Ge nanocrystals embedded within Al2O3 matrix for high performance floating gate memory devices. Applied Physics Letters, 2015, 107, .	1.5	24
53	Formation of Mach angle profiles during wet etching of silica and silicon nitride materials. Applied Surface Science, 2015, 359, 679-686.	3.1	11
54	Second-Order Optical Nonlinearity in Silicon Waveguides: Inhomogeneous Stress and Interfaces. Advanced Optical Materials, 2015, 3, 129-136.	3.6	53

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55	Nonlinear Silicon Photonics. , 2015, , .		0
56	Silicon oxynitride waveguides as evanescent-field-based fluorescent biosensors. Journal Physics D: Applied Physics, 2014, 47, 405401.	1.3	16
57	Intermode reactive coupling induced by waveguide-resonator interaction. Physical Review A, 2014, 90, .	1.0	23
58	Light Localisation and Lasing. , 2014, , .		16
59	Design of Composite and Multi-Component One-Dimensional Photonic Crystal Structures Based on Silicon. , 2014, , 469-542.		0
60	Silicon-based monolithically integrated whispering-gallery mode resonators. Proceedings of SPIE, 2013, , .	0.8	1
61	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
62	Oscillatory Vertical Coupling between a Whispering-Gallery Resonator and a Bus Waveguide. Physical Review Letters, 2013, 110, 163901.	2.9	38
63	Monolithic integration of high-Q wedge resonators with vertically coupled waveguides. , 2013, , .		1
64	Thermo-optical bistability with Si nanocrystals in a whispering gallery mode resonator. Optics Letters, 2013, 38, 3562.	1.7	21
65	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
66	Mid-infrared difference-frequency generation in silicon waveguides strained by silicon nitride. , 2013, , .		1
67	A fully integrated high-Q Whispering-Gallery Wedge Resonator. Optics Express, 2012, 20, 22934.	1.7	36
68	Silicon-based monolithically integrated whispering-gallery mode resonators with buried waveguides. , 2012, , .		1
69	Photophysics of resonantly and non-resonantly excited erbium doped Ge nanowires. Nanotechnology, 2012, 23, 065702.	1.3	13
70	Two-dimensional micro-Raman mapping of stress and strain distributions in strained silicon waveguides. Semiconductor Science and Technology, 2012, 27, 085009.	1.0	23
71	Second-harmonic generation in silicon waveguides strained by silicon nitride. Nature Materials, 2012, 11, 148-154.	13.3	280
72	Second-order susceptibility $\chi^{(2)}$ in Si waveguides. , 2011, , .		0

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73	Monolithic Whispering-Gallery Mode Resonators With Vertically Coupled Integrated Bus Waveguides. IEEE Photonics Technology Letters, 2011, 23, 1166-1168.	1.3	42
74	Development and optical characterization of vertical tapers in SiON waveguides using gray-scale lithography. Proceedings of SPIE, 2011, , .	0.8	4
75	Microstructural, chemical bonding, stress development and charge storage characteristics of Ge nanocrystals embedded in hafnium oxide. Journal of Nanoparticle Research, 2011, 13, 587-595.	0.8	20
76	Continuous wave spectroscopy of nonlinear dynamics of Si nanocrystals in a microdisk resonator. Physical Review B, 2011, 84, .	1.1	2
77	Structural analyses of thermal annealed SRO/SiO <sub>2</sub> superlattices. Surface and Interface Analysis, 2010, 42, 842-845.	0.8	6
78	Silicon solar cells with nano-crystalline silicon down shifter: experiment and modeling. Proceedings of SPIE, 2010, , .	0.8	7
79	Probing the Spontaneous Emission Dynamics in Si-Nanocrystals-Based Microdisk Resonators. Physical Review Letters, 2010, 104, 103901.	2.9	22
80	Room temperature infrared photoresponse of self assembled Ge/Si (001) quantum dots grown by molecular beam epitaxy. Applied Physics Letters, 2010, 96, .	1.5	39
81	Spontaneous emission dynamics and Purcell enhancement in Si-nc-based microdisk resonators. , 2010, , .		0
82	Silicon quantum dots in microdisk resonators: whispering-gallery modes, stress-induced Q-factor tuning and enhancement. , 2009, , .		0
83	Stabilization of Porous Silicon Free-Standing Coupled Optical Microcavities by Surface Chemical Modification. ECS Transactions, 2009, 16, 211-219.	0.3	0
84	Porous Multilayers as a Dielectric Host for Photons Manipulation. ECS Transactions, 2009, 16, 307-321.	0.3	1
85	Polymeric waveguides using oxidized porous silicon cladding for optical amplification. Optical Materials, 2009, 31, 1488-1491.	1.7	10
86	Whispering-gallery mode micro-kylix resonators. Optics Express, 2009, 17, 9434.	1.7	10
87	Preparation and Characterization of Nanocrystals using Ellipsometry and X-ray Diffraction. ECS Transactions, 2009, 25, 373-378.	0.3	2
88	Q-factor tuning in all-active whispering-gallery mode resonators with Si-nc. , 2009, , .		0
89	Silicon quantum dots in microdisk resonators: Stress-engineering of disk core for q-factor tuning and enhancement. , 2009, , .		0
90	Multilayer silicon rich oxy-nitride films characterization by SIMS, VASE and AFM. Journal of Physics: Conference Series, 2008, 100, 012016.	0.3	2

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91	Whispering-gallery modes and light emission from a Si-nanocrystal-based single microdisk resonator. Optics Express, 2008, 16, 13218.	1.7	54
92	Noise Spectroscopy of Gas Sensors. IEEE Sensors Journal, 2008, 8, 786-790.	2.4	32
93	Noise spectroscopy of porous silicon gas sensors. Proceedings of SPIE, 2008, , .	0.8	1
94	Whispering-gallery modes and Purcell effect in a Si-nanocrystal-based single microdisk resonator. , 2008, , .		0
95	Stabilized porous silicon optical superlattices with controlled surface passivation. Applied Physics Letters, 2008, 93, 061113.	1.5	34
96	Dynamics of capillary condensation in bistable optical superlattices. Physical Review B, 2008, 77, .	1.1	4
97	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
98	Periodically oscillating Anderson localization in random photonic superlattices with resonant units. , 2008, , .		0
99	Formation of optimal-order necklace modes in one-dimensional random photonic superlattices. Physical Review A, 2007, 76, .	1.0	11
100	Periodic Oscillations in Transmission Decay of Anderson Localized One-Dimensional Dielectric Systems. Physical Review Letters, 2007, 99, 063905.	2.9	19
101	Optical gain in dye-doped polymer waveguides using oxidized porous silicon cladding. , 2007, , .		2
102	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
103	Low-frequency noise in structures with porous silicon in different gas media. Physica Status Solidi C: Current Topics in Solid State Physics, 2007, 4, 2063-2067.	0.8	13
104	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
105	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
106	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
107	Optical switching by capillary condensation. Nature Photonics, 2007, 1, 172-175.	15.6	64
108	Photon energy lifter. Optics Express, 2006, 14, 7270.	1.7	34

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109	Broken symmetry in photonic crystals: resonant Zener tunneling of light waves. , 2006, , ThD4.		0
110	Wave transport in random systems: Multiple resonance character of necklace modes and their statistical behavior. Physical Review E, 2006, 74, 035602.	0.8	34
111	Optical gain in dye-impregnated oxidized porous silicon waveguides. Applied Physics Letters, 2006, 89, 011107.	1.5	24
112	Tuning of resonant Zener tunneling by vapor diffusion and condensation in porous optical superlattices. Physical Review B, 2006, 74, .	1.1	11
113	Wide-band transmission of nondistorted slow waves in one-dimensional optical superlattices. Applied Physics Letters, 2006, 88, 241103.	1.5	25
114	Optical necklace states in Anderson localized 1D systems. , 2006, , .		106
115	Bloch oscillations and resonant Zener tunneling of light in optical superlattices (Invited Paper). , 2005, 5840, 421.		0
116	Fabrication and optimization of rugate filters based on porous silicon. Physica Status Solidi C: Current Topics in Solid State Physics, 2005, 2, 3227-3231.	0.8	38
117	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
118	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
119	Force modulation microscopy of multilayered porous silicon samples. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 1492-1496.	0.8	4
120	Zener Tunneling of Light Waves in an Optical Superlattice. Physical Review Letters, 2005, 94, 127401.	2.9	126
121	Porous silicon-based notch filters and waveguides. , 2005, , .		3
122	Light-pulse propagation in Fibonacci quasicrystals. Physical Review B, 2005, 71, .	1.1	65
123	Porous silicon-based rugate filters. Applied Optics, 2005, 44, 5415.	2.1	143
124	Optics of nanostructured dielectrics. Journal of Optics, 2005, 7, S190-S197.	1.5	49
125	Optical Necklace States in Anderson Localized 1D Systems. Physical Review Letters, 2005, 94, 113903.	2.9	177
126	Zener tunneling of light in an optical superlattice. Materials Research Society Symposia Proceedings, 2004, 829, 295.	0.1	0

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127	Transport of optical waves in partially ordered materials. , 2004, , .		0
128	Structural properties of porous media. Physica Status Solidi A, 2003, 197, 419-424.	1.7	7
129	Electrical conductivity mechanisms in porous silicon. Physica Status Solidi A, 2003, 197, 462-466.	1.7	33
130	Light Transport in Complex Photonic Systems. , 2003, , 2-20.		0
131	Optical Analogue of Electronic Bloch Oscillations. Physical Review Letters, 2003, 91, 263902.	2.9	245
132	Porous silicon free-standing coupled microcavities. Applied Physics Letters, 2003, 82, 1550-1552.	1.5	59
133	Free-standing porous silicon single and multiple optical cavities. Journal of Applied Physics, 2003, 93, 9724-9729.	1.1	124
134	Scattering rings as a tool for birefringence measurements in porous silicon. Journal of Applied Physics, 2003, 94, 6334-6340.	1.1	14
135	Scattering Rings in Birefringent Porous Silicon. Materials Research Society Symposia Proceedings, 2003, 762, 17171.	0.1	0
136	Scattering rings in optically anisotropic porous silicon. Applied Physics Letters, 2002, 81, 4919-4921.	1.5	27
137	Fractal model of a porous semiconductor. Applied Surface Science, 2000, 162-163, 122-132.	3.1	23
138	ON THE FRACTAL MODEL OF THE POROUS LAYER FORMATION. Modern Physics Letters B, 2000, 14, 39-46.	1.0	6
139	Electro-and photoluminescence in graded bandgap nanostructures at moderate double-injection level. , 1999, 3790, 55.		3
140	Electro- and Photoluminescence in Graded-Gap Structures with Double Injection. Physica Status Solidi A, 1998, 165, 135-139.	1.7	2
141	Light transport through porous silicon coupled microcavities. , 0, , .		0
142	One-dimensional photonic quasicrystals. , 0, , 99-129.		1
143	An integrated optical biosensor platform. SPIE Newsroom, 0, , .	0.1	2
144	Second-order nonlinear silicon photonics. SPIE Newsroom, 0, , .	0.1	1