

Emil V Prodan

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

103
papers

9,664
citations

32
h-index

98
g-index

109
ext. papers

10,815
ext. citations

4.1
avg, IF

6.57
L-index

#	Paper	IF	Citations
103	Dynamics of elastic hyperbolic lattices. <i>Extreme Mechanics Letters</i> , 2021 , 49, 101491	3.9	1
102	Topological gaps by twisting. <i>Communications Physics</i> , 2021 , 4,	5.4	5
101	Fermionic Topological Order on Generic Triangulations. <i>Annales Henri Poincare</i> , 2021 , 22, 1133-1161	1.2	0
100	Creating synthetic spaces for higher-order topological sound transport. <i>Nature Communications</i> , 2021 , 12, 5028	17.4	4
99	Topological lattice defects by groupoid methods and Kasparov KK -theory*. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2021 , 54, 424001	2	0
98	Bulk-boundary correspondence for topological insulators with quantized magneto-electric effect. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2020 , 53, 205203	2	1
97	Braiding flux-tubes in topological quantum and classical lattice models from class-D. <i>Annals of Physics</i> , 2020 , 414, 168089	2.5	1
96	Topological Braiding of Non-Abelian Midgap Defects in Classical Metamaterials. <i>Physical Review Letters</i> , 2020 , 124, 146801	7.4	3
95	Disordered crystals from first principles II: Transport coefficients. <i>Annals of Physics</i> , 2020 , 421, 168290	2.5	2
94	A computer code for topological quantum spin systems over triangulated surfaces. <i>International Journal of Modern Physics C</i> , 2020 , 31, 2050091	1.1	
93	Experimental Demonstration of Dynamic Topological Pumping across Incommensurate Bilayered Acoustic Metamaterials. <i>Physical Review Letters</i> , 2020 , 125, 224301	7.4	15
92	Flat energy bands within antiphase and twin boundaries and at open edges in topological materials. <i>Physical Review B</i> , 2019 , 99,	3.3	3
91	Observation of Hofstadter butterfly and topological edge states in reconfigurable quasi-periodic acoustic crystals. <i>Communications Physics</i> , 2019 , 2,	5.4	43
90	Valley Chern Effect with LC Resonators: A Modular Platform. <i>Physical Review Applied</i> , 2019 , 11,	4.3	5
89	Observation of Topological Edge Modes in a Quasiperiodic Acoustic Waveguide. <i>Physical Review Letters</i> , 2019 , 122, 095501	7.4	34
88	BulkBoundary Correspondence for Sturmian Kohmoto-Like Models. <i>Annales Henri Poincare</i> , 2019 , 20, 2039-2070	1.2	8
87	The K-theoretic bulk-boundary principle for dynamically patterned resonators. <i>Journal of Geometry and Physics</i> , 2019 , 135, 135-171	1.2	10

86	Mapping the dispersion of water wave channels. <i>Scientific Reports</i> , 2018 , 8, 3324	4.9	
85	Disordered crystals from first principles I: Quantifying the configuration space. <i>Annals of Physics</i> , 2018 , 391, 120-149	2.5	15
84	Topological edge modes by smart patterning. <i>Physical Review Materials</i> , 2018 , 2,	3.2	23
83	Non-commutative Chern numbers for generic aperiodic discrete systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2018 , 51, 235202	2	24
82	Topological classification table implemented with classical passive metamaterials. <i>Physical Review B</i> , 2018 , 98,	3.3	14
81	Topology of the valley-Chern effect. <i>Physical Review B</i> , 2018 , 98,	3.3	29
80	Dynamical Majorana edge modes in a broad class of topological mechanical systems. <i>Nature Communications</i> , 2017 , 8, 14587	17.4	41
79	Disordered Topological Insulators: A Brief Introduction. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 1-9	0.2	
78	Applications: Transport Coefficients at Finite Temperature. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 79-98	0.2	
77	Applications II: Topological Invariants. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 109-118	0.2	
76	A Computational Non-commutative Geometry Program for Disordered Topological Insulators. <i>SpringerBriefs in Mathematical Physics</i> , 2017 ,	0.2	22
75	Electron Dynamics: Concrete Physical Models. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 11-24	0.2	
74	Non-commutative Brillouin Torus. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 25-48	0.2	
73	Error Bounds for Non-smooth Correlations. <i>SpringerBriefs in Mathematical Physics</i> , 2017 , 99-107	0.2	
72	Bulk and Boundary Invariants for Complex Topological Insulators. <i>Letters in Mathematical Physics</i> , 2016 ,	0.2	144
71	Mapping the current-current correlation function near a quantum critical point. <i>Annals of Physics</i> , 2016 , 368, 1-15	2.5	8
70	Disorder effects in correlated topological insulators. <i>Physical Review B</i> , 2016 , 94,	3.3	11
69	Generalized Connes-Chern characters in KK-theory with an application to weak invariants of topological insulators. <i>Reviews in Mathematical Physics</i> , 2016 , 28, 1650024	1.2	15

68	Non-commutative odd Chern numbers and topological phases of disordered chiral systems. <i>Journal of Functional Analysis</i> , 2016 , 271, 1150-1176	1.4	29
67	Quantization of topological invariants under symmetry-breaking disorder. <i>Physical Review B</i> , 2015 , 92,	3.3	9
66	Virtual topological insulators with real quantized physics. <i>Physical Review B</i> , 2015 , 91,	3.3	32
65	On the generalized Wannier functions. <i>Journal of Mathematical Physics</i> , 2015 , 56, 113511	1.2	3
64	Effect of strong disorder on three-dimensional chiral topological insulators: Phase diagrams, maps of the bulk invariant, and existence of topological extended bulk states. <i>Physical Review B</i> , 2014 , 90,	3.3	9
63	Mathematical and physical aspects of complex symmetric operators. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2014 , 47, 353001	2	50
62	Theory of Quantum Plasmon Resonances in Doped Semiconductor Nanocrystals. <i>Journal of Physical Chemistry C</i> , 2014 , 118, 16035-16042	3.8	54
61	All and BDI topological systems at strong disorder. <i>Physical Review B</i> , 2014 , 89,	3.3	41
60	Topological criticality in the chiral-symmetric All class at strong disorder. <i>Physical Review Letters</i> , 2014 , 113, 046802	7.4	103
59	Characterization of the quantized Hall insulator phase in the quantum critical regime. <i>Europhysics Letters</i> , 2014 , 105, 37001	1.6	12
58	Quantum plasmonics: optical properties of a nanomatryushka. <i>Nano Letters</i> , 2013 , 13, 5873-9	11.5	79
57	A non-commutative formula for the isotropic magneto-electric response. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013 , 46, 085205	2	10
56	The non-commutative Chern number ($n \neq 1$). <i>Journal of Physics A: Mathematical and Theoretical</i> , 2013 , 46, 485202	2	27
55	Quantum criticality at the Chern-to-normal insulator transition. <i>Physical Review B</i> , 2013 , 87,	3.3	17
54	Noncommutative Kubo formula: Applications to transport in disordered topological insulators with and without magnetic fields. <i>Physical Review B</i> , 2012 , 86,	3.3	15
53	Quantum Transport in Disordered Systems Under Magnetic Fields: A Study Based on Operator Algebras. <i>Applied Mathematics Research Express</i> , 2012 ,		15
52	Effect of strong disorder in a three-dimensional topological insulator: Phase diagram and maps of the Z2 invariant. <i>Physical Review B</i> , 2012 , 85,	3.3	24
51	Topologically protected extended states in disordered quantum spin-Hall systems without time-reversal symmetry. <i>Physical Review B</i> , 2012 , 85,	3.3	16

50	Disordered topological insulators: a non-commutative geometry perspective. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011 , 44, 113001	2	88
49	Inversion-symmetric topological insulators. <i>Physical Review B</i> , 2011 , 83,	3.3	319
48	Disordered topological insulators: a non-commutative geometry perspective. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2011 , 44, 239601	2	11
47	Three-dimensional phase diagram of disordered HgTe/CdTe quantum spin-Hall wells. <i>Physical Review B</i> , 2011 , 83,	3.3	56
46	Manifestly gauge-independent formulations of the Z2 invariants. <i>Physical Review B</i> , 2011 , 83,	3.3	24
45	Topological phonon modes in filamentary structures. <i>Physical Review E</i> , 2011 , 83, 021913	2.4	28
44	Tunneling transport in devices with semiconducting leads. <i>Physical Review B</i> , 2010 , 81,	3.3	3
43	Non-commutative tools for topological insulators. <i>New Journal of Physics</i> , 2010 , 12, 065003	2.9	52
42	Entanglement spectrum of a disordered topological Chern insulator. <i>Physical Review Letters</i> , 2010 , 105, 115501	7.4	140
41	Quantum plasmonics: optical properties and tunability of metallic nanorods. <i>ACS Nano</i> , 2010 , 4, 5269-7616.7	207	
40	Mapping the braiding properties of the Moore-Read state. <i>Physical Review B</i> , 2009 , 80,	3.3	30
39	Topological phonon modes and their role in dynamic instability of microtubules. <i>Physical Review Letters</i> , 2009 , 103, 248101	7.4	218
38	Robustness of the spin-Chern number. <i>Physical Review B</i> , 2009 , 80,	3.3	181
37	Theory of tunneling transport in periodic chains. <i>Physical Review B</i> , 2009 , 80,	3.3	11
36	The edge spectrum of Chern insulators with rough boundaries. <i>Journal of Mathematical Physics</i> , 2009 , 50, 083517	1.2	33
35	Topological quantization of ensemble averages. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009 , 42, 065207	2	6
34	An edge index for the quantum spin-Hall effect. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009 , 42, 082001	2	12
33	Quantum description of the plasmon resonances of a nanoparticle dimer. <i>Nano Letters</i> , 2009 , 9, 887-91	11.5	688

32	The dielectric response of spherical live cells in suspension: an analytic solution. <i>Biophysical Journal</i> , 2008 , 95, 4174-82	2.9	53
31	Tunneling conductance of amine-linked alkyl chains. <i>Nano Letters</i> , 2008 , 8, 1771-7	11.5	22
30	Band alignment in molecular devices: Influence of anchoring group and metal work function. <i>Physical Review B</i> , 2008 , 77,	3.3	32
29	dc conductance of molecular wires. <i>Physical Review B</i> , 2007 , 76,	3.3	14
28	Norm estimates of complex symmetric operators applied to quantum systems. <i>Journal of Physics A</i> , 2006 , 39, 389-400		26
27	Nearsightedness of electronic matter in one dimension. <i>Physical Review B</i> , 2006 , 73,	3.3	22
26	Analytic structure of Bloch functions for linear molecular chains. <i>Physical Review B</i> , 2006 , 73,	3.3	14
25	Symmetry breaking in the self-consistent Kohn-Sham equations. <i>Journal of Physics A</i> , 2005 , 38, 5647-5657		7
24	Nearsightedness of electronic matter. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005 , 102, 11635-8	11.5	300
23	Plasmon Hybridization in Nanoparticle Dimers. <i>Nano Letters</i> , 2004 , 4, 899-903	11.5	1357
22	Plasmon hybridization in spherical nanoparticles. <i>Journal of Chemical Physics</i> , 2004 , 120, 5444-54	3.9	440
21	Plasmon Hybridization in Nanoparticles near Metallic Surfaces. <i>Nano Letters</i> , 2004 , 4, 2209-2213	11.5	282
20	Electronic structure and optical properties of metallic nanoshells 2003 , 5221, 151		4
19	A hybridization model for the plasmon response of complex nanostructures. <i>Science</i> , 2003 , 302, 419-22	33.3	3073
18	On the Kohn-Sham Equations with Periodic Background Potentials. <i>Journal of Statistical Physics</i> , 2003 , 111, 967-992	1.5	14
17	Effects of dielectric screening on the optical properties of metallic nanoshells. <i>Chemical Physics Letters</i> , 2003 , 368, 94-101	2.5	105
16	Electronic Structure and Optical Properties of Gold Nanoshells. <i>Nano Letters</i> , 2003 , 3, 1411-1415	11.5	226
15	Structural Tunability of the Plasmon Resonances in Metallic Nanoshells. <i>Nano Letters</i> , 2003 , 3, 543-547	11.5	218

14	Electronic structure and polarizability of metallic nanoshells. <i>Chemical Physics Letters</i> , 2002 , 352, 140-146.	5	61
13	The effect of a dielectric core and embedding medium on the polarizability of metallic nanoshells. <i>Chemical Physics Letters</i> , 2002 , 360, 325-332	2.5	147
12	Optical properties of metallic nanoshells 2002 , 4810, 91		2
11	Exchange and correlations effects in small metallic nanoshells. <i>Chemical Physics Letters</i> , 2001 , 349, 153-169	1.9	20
10	Hartree approximation III: Symmetry breaking. <i>Journal of Mathematical Physics</i> , 2001 , 42, 3424-3438	1.2	3
9	Hartree approximation II: The thermodynamic limit. <i>Journal of Mathematical Physics</i> , 2001 , 42, 3407-3423.	1.2	1
8	Hartree approximation I: The fixed point approach. <i>Journal of Mathematical Physics</i> , 2001 , 42, 3390-3406.	1.2	6
7	High-Tc SQUID-based impedance spectroscopy of living cell suspensions. <i>Physica C: Superconductivity and Its Applications</i> , 2000 , 341-348, 2693-2694	1.3	5
6	Time-correlated soliton tunneling in charge and spin density waves. <i>Physical Review Letters</i> , 2000 , 84, 1555-8	7.4	25
5	Cluster expansion for $P(\mathbb{Z})$: explicit estimates. <i>Journal of Mathematical Physics</i> , 2000 , 41, 787-804	1.2	1
4	The dielectric behaviour of living cell suspensions. <i>Journal Physics D: Applied Physics</i> , 1999 , 32, 335-343	3	45
3	Spontaneous transitions in quantum mechanics. <i>Journal of Physics A</i> , 1999 , 32, 4877-4881		2
2	Transfer matrices for scalar fields on curved spaces. <i>Journal of Mathematical Physics</i> , 1999 , 40, 1400-1405.	1.2	
1	The Laplace-Beltrami operator on surfaces with axial symmetry. <i>Journal of Physics A</i> , 1998 , 31, 4289-4300		2