

# Emil V Prodan

## List of Publications by Citations

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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	A hybridization model for the plasmon response of complex nanostructures. <i>Science</i> , <b>2003</b> , 302, 419-22	33.3	3073
102	Plasmon Hybridization in Nanoparticle Dimers. <i>Nano Letters</i> , <b>2004</b> , 4, 899-903	11.5	1357
101	Quantum description of the plasmon resonances of a nanoparticle dimer. <i>Nano Letters</i> , <b>2009</b> , 9, 887-91	11.5	688
100	Plasmon hybridization in spherical nanoparticles. <i>Journal of Chemical Physics</i> , <b>2004</b> , 120, 5444-54	3.9	440
99	Inversion-symmetric topological insulators. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	319
98	Nearsightedness of electronic matter. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2005</b> , 102, 11635-8	11.5	300
97	Plasmon Hybridization in Nanoparticles near Metallic Surfaces. <i>Nano Letters</i> , <b>2004</b> , 4, 2209-2213	11.5	282
96	Electronic Structure and Optical Properties of Gold Nanoshells. <i>Nano Letters</i> , <b>2003</b> , 3, 1411-1415	11.5	226
95	Topological phonon modes and their role in dynamic instability of microtubules. <i>Physical Review Letters</i> , <b>2009</b> , 103, 248101	7.4	218
94	Structural Tunability of the Plasmon Resonances in Metallic Nanoshells. <i>Nano Letters</i> , <b>2003</b> , 3, 543-547	11.5	218
93	Quantum plasmonics: optical properties and tunability of metallic nanorods. <i>ACS Nano</i> , <b>2010</b> , 4, 5269-76	16.7	207
92	Robustness of the spin-Chern number. <i>Physical Review B</i> , <b>2009</b> , 80,	3.3	181
91	The effect of a dielectric core and embedding medium on the polarizability of metallic nanoshells. <i>Chemical Physics Letters</i> , <b>2002</b> , 360, 325-332	2.5	147
90	Bulk and Boundary Invariants for Complex Topological Insulators. <i>Letters in Mathematical Physics</i> , <b>2016</b> ,	0.2	144
89	Entanglement spectrum of a disordered topological Chern insulator. <i>Physical Review Letters</i> , <b>2010</b> , 105, 115501	7.4	140
88	Effects of dielectric screening on the optical properties of metallic nanoshells. <i>Chemical Physics Letters</i> , <b>2003</b> , 368, 94-101	2.5	105
87	Topological criticality in the chiral-symmetric AIII class at strong disorder. <i>Physical Review Letters</i> , <b>2014</b> , 113, 046802	7.4	103

86	Disordered topological insulators: a non-commutative geometry perspective. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2011</b> , 44, 113001	2	88
85	Quantum plasmonics: optical properties of a nanomatryushka. <i>Nano Letters</i> , <b>2013</b> , 13, 5873-9	11.5	79
84	Electronic structure and polarizability of metallic nanoshells. <i>Chemical Physics Letters</i> , <b>2002</b> , 352, 140-146.	6.5	61
83	Three-dimensional phase diagram of disordered HgTe/CdTe quantum spin-Hall wells. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	56
82	Theory of Quantum Plasmon Resonances in Doped Semiconductor Nanocrystals. <i>Journal of Physical Chemistry C</i> , <b>2014</b> , 118, 16035-16042	3.8	54
81	The dielectric response of spherical live cells in suspension: an analytic solution. <i>Biophysical Journal</i> , <b>2008</b> , 95, 4174-82	2.9	53
80	Non-commutative tools for topological insulators. <i>New Journal of Physics</i> , <b>2010</b> , 12, 065003	2.9	52
79	Mathematical and physical aspects of complex symmetric operators. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2014</b> , 47, 353001	2	50
78	The dielectric behaviour of living cell suspensions. <i>Journal Physics D: Applied Physics</i> , <b>1999</b> , 32, 335-343	3	45
77	Observation of Hofstadter butterfly and topological edge states in reconfigurable quasi-periodic acoustic crystals. <i>Communications Physics</i> , <b>2019</b> , 2,	5.4	43
76	Dynamical Majorana edge modes in a broad class of topological mechanical systems. <i>Nature Communications</i> , <b>2017</b> , 8, 14587	17.4	41
75	All and BDI topological systems at strong disorder. <i>Physical Review B</i> , <b>2014</b> , 89,	3.3	41
74	Observation of Topological Edge Modes in a Quasiperiodic Acoustic Waveguide. <i>Physical Review Letters</i> , <b>2019</b> , 122, 095501	7.4	34
73	The edge spectrum of Chern insulators with rough boundaries. <i>Journal of Mathematical Physics</i> , <b>2009</b> , 50, 083517	1.2	33
72	Virtual topological insulators with real quantized physics. <i>Physical Review B</i> , <b>2015</b> , 91,	3.3	32
71	Band alignment in molecular devices: Influence of anchoring group and metal work function. <i>Physical Review B</i> , <b>2008</b> , 77,	3.3	32
70	Mapping the braiding properties of the Moore-Read state. <i>Physical Review B</i> , <b>2009</b> , 80,	3.3	30
69	Non-commutative odd Chern numbers and topological phases of disordered chiral systems. <i>Journal of Functional Analysis</i> , <b>2016</b> , 271, 1150-1176	1.4	29

68	Topology of the valley-Chern effect. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	29
67	Topological phonon modes in filamentary structures. <i>Physical Review E</i> , <b>2011</b> , 83, 021913	2.4	28
66	The non-commutativeth-Chern number ( $n \neq 1$ ). <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2013</b> , 46, 485202	2	27
65	Norm estimates of complex symmetric operators applied to quantum systems. <i>Journal of Physics A</i> , <b>2006</b> , 39, 389-400		26
64	Time-correlated soliton tunneling in charge and spin density waves. <i>Physical Review Letters</i> , <b>2000</b> , 84, 1555-8	7.4	25
63	Manifestly gauge-independent formulations of the $Z_2$ invariants. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	24
62	Effect of strong disorder in a three-dimensional topological insulator: Phase diagram and maps of the $Z_2$ invariant. <i>Physical Review B</i> , <b>2012</b> , 85,	3.3	24
61	Non-commutative Chern numbers for generic aperiodic discrete systems. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2018</b> , 51, 235202	2	24
60	Topological edge modes by smart patterning. <i>Physical Review Materials</i> , <b>2018</b> , 2,	3.2	23
59	A Computational Non-commutative Geometry Program for Disordered Topological Insulators. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> ,	0.2	22
58	Tunneling conductance of amine-linked alkyl chains. <i>Nano Letters</i> , <b>2008</b> , 8, 1771-7	11.5	22
57	Nearsightedness of electronic matter in one dimension. <i>Physical Review B</i> , <b>2006</b> , 73,	3.3	22
56	Exchange and correlations effects in small metallic nanoshells. <i>Chemical Physics Letters</i> , <b>2001</b> , 349, 153-169		20
55	Quantum criticality at the Chern-to-normal insulator transition. <i>Physical Review B</i> , <b>2013</b> , 87,	3.3	17
54	Topologically protected extended states in disordered quantum spin-Hall systems without time-reversal symmetry. <i>Physical Review B</i> , <b>2012</b> , 85,	3.3	16
53	Disordered crystals from first principles I: Quantifying the configuration space. <i>Annals of Physics</i> , <b>2018</b> , 391, 120-149	2.5	15
52	Noncommutative Kubo formula: Applications to transport in disordered topological insulators with and without magnetic fields. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	15
51	Quantum Transport in Disordered Systems Under Magnetic Fields: A Study Based on Operator Algebras. <i>Applied Mathematics Research Express</i> , <b>2012</b> ,		15

50	Experimental Demonstration of Dynamic Topological Pumping across Incommensurate Bilayered Acoustic Metamaterials. <i>Physical Review Letters</i> , <b>2020</b> , 125, 224301	7.4	15
49	Generalized Chern characters in KK-theory with an application to weak invariants of topological insulators. <i>Reviews in Mathematical Physics</i> , <b>2016</b> , 28, 1650024	1.2	15
48	Analytic structure of Bloch functions for linear molecular chains. <i>Physical Review B</i> , <b>2006</b> , 73,	3.3	14
47	dc conductance of molecular wires. <i>Physical Review B</i> , <b>2007</b> , 76,	3.3	14
46	On the Kohn-Sham Equations with Periodic Background Potentials. <i>Journal of Statistical Physics</i> , <b>2003</b> , 111, 967-992	1.5	14
45	Topological classification table implemented with classical passive metamaterials. <i>Physical Review B</i> , <b>2018</b> , 98,	3.3	14
44	Characterization of the quantized Hall insulator phase in the quantum critical regime. <i>Europhysics Letters</i> , <b>2014</b> , 105, 37001	1.6	12
43	An edge index for the quantum spin-Hall effect. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2009</b> , 42, 082001	2	12
42	Disordered topological insulators: a non-commutative geometry perspective. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2011</b> , 44, 239601	2	11
41	Theory of tunneling transport in periodic chains. <i>Physical Review B</i> , <b>2009</b> , 80,	3.3	11
40	Disorder effects in correlated topological insulators. <i>Physical Review B</i> , <b>2016</b> , 94,	3.3	11
39	A non-commutative formula for the isotropic magneto-electric response. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2013</b> , 46, 085205	2	10
38	The K-theoretic bulk-boundary principle for dynamically patterned resonators. <i>Journal of Geometry and Physics</i> , <b>2019</b> , 135, 135-171	1.2	10
37	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> , <b>2014</b> , 90,	3.3	9
36	Quantization of topological invariants under symmetry-breaking disorder. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	9
35	Bulk-Boundary Correspondence for Sturmian Kohmoto-Like Models. <i>Annales Henri Poincare</i> , <b>2019</b> , 20, 2039-2070	1.2	8
34	Mapping the current-current correlation function near a quantum critical point. <i>Annals of Physics</i> , <b>2016</b> , 368, 1-15	2.5	8
33	Symmetry breaking in the self-consistent Kohn-Sham equations. <i>Journal of Physics A</i> , <b>2005</b> , 38, 5647-5657		7

32	Topological quantization of ensemble averages. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2009</b> , 42, 065207	2	6
31	Hartree approximation I: The fixed point approach. <i>Journal of Mathematical Physics</i> , <b>2001</b> , 42, 3390-3406	1.2	6
30	Valley Chern Effect with LC Resonators: A Modular Platform. <i>Physical Review Applied</i> , <b>2019</b> , 11,	4-3	5
29	High-Tc SQUID-based impedance spectroscopy of living cell suspensions. <i>Physica C: Superconductivity and Its Applications</i> , <b>2000</b> , 341-348, 2693-2694	1-3	5
28	Topological gaps by twisting. <i>Communications Physics</i> , <b>2021</b> , 4,	5-4	5
27	Electronic structure and optical properties of metallic nanoshells <b>2003</b> , 5221, 151		4
26	Creating synthetic spaces for higher-order topological sound transport. <i>Nature Communications</i> , <b>2021</b> , 12, 5028	17-4	4
25	Flat energy bands within antiphase and twin boundaries and at open edges in topological materials. <i>Physical Review B</i> , <b>2019</b> , 99,	3-3	3
24	Topological Braiding of Non-Abelian Midgap Defects in Classical Metamaterials. <i>Physical Review Letters</i> , <b>2020</b> , 124, 146801	7-4	3
23	On the generalized Wannier functions. <i>Journal of Mathematical Physics</i> , <b>2015</b> , 56, 113511	1-2	3
22	Tunneling transport in devices with semiconducting leads. <i>Physical Review B</i> , <b>2010</b> , 81,	3-3	3
21	Hartree approximation III: Symmetry breaking. <i>Journal of Mathematical Physics</i> , <b>2001</b> , 42, 3424-3438	1-2	3
20	Optical properties of metallic nanoshells <b>2002</b> , 4810, 91		2
19	The Laplace-Beltrami operator on surfaces with axial symmetry. <i>Journal of Physics A</i> , <b>1998</b> , 31, 4289-4300		2
18	Spontaneous transitions in quantum mechanics. <i>Journal of Physics A</i> , <b>1999</b> , 32, 4877-4881		2
17	Disordered crystals from first principles II: Transport coefficients. <i>Annals of Physics</i> , <b>2020</b> , 421, 168290	2-5	2
16	Bulk-boundary correspondence for topological insulators with quantized magneto-electric effect. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2020</b> , 53, 205203	2	1
15	Braiding flux-tubes in topological quantum and classical lattice models from class-D. <i>Annals of Physics</i> , <b>2020</b> , 414, 168089	2-5	1

14	Hartree approximation II: The thermodynamic limit. <i>Journal of Mathematical Physics</i> , <b>2001</b> , 42, 3407-3423.	1.2	1
13	Cluster expansion for $P(\mathbb{Z})$ : explicit estimates. <i>Journal of Mathematical Physics</i> , <b>2000</b> , 41, 787-804	1.2	1
12	Dynamics of elastic hyperbolic lattices. <i>Extreme Mechanics Letters</i> , <b>2021</b> , 49, 101491	3.9	1
11	Fermionic Topological Order on Generic Triangulations. <i>Annales Henri Poincare</i> , <b>2021</b> , 22, 1133-1161	1.2	0
10	Topological lattice defects by groupoid methods and Kasparov $\hat{K}$ -theory*. <i>Journal of Physics A: Mathematical and Theoretical</i> , <b>2021</b> , 54, 424001	2	0
9	Disordered Topological Insulators: A Brief Introduction. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 1-9	0.2	
8	Applications: Transport Coefficients at Finite Temperature. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 79-98	0.2	
7	Applications II: Topological Invariants. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 109-118	0.2	
6	Electron Dynamics: Concrete Physical Models. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 11-24	0.2	
5	Mapping the dispersion of water wave channels. <i>Scientific Reports</i> , <b>2018</b> , 8, 3324	4.9	
4	Transfer matrices for scalar fields on curved spaces. <i>Journal of Mathematical Physics</i> , <b>1999</b> , 40, 1400-1405.	1.2	
3	Non-commutative Brillouin Torus. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 25-48	0.2	
2	Error Bounds for Non-smooth Correlations. <i>SpringerBriefs in Mathematical Physics</i> , <b>2017</b> , 99-107	0.2	
1	A computer code for topological quantum spin systems over triangulated surfaces. <i>International Journal of Modern Physics C</i> , <b>2020</b> , 31, 2050091	1.1	