

# Gregor Tkachov

## 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.

53  
papers

1,284  
citations

21  
h-index

35  
g-index

58  
ext. papers

1,501  
ext. citations

3.8  
avg, IF

4.83  
L-index

#	Paper	IF	Citations
53	Quantum Diffusion in the Lowest Landau Level of Disordered Graphene. <i>Nanomaterials</i> , <b>2022</b> , 12, 1675	5.4	0
52	Diffusive transport in the lowest Landau level of disordered 2d semimetals: the mean-square-displacement approach. <i>European Physical Journal B</i> , <b>2022</b> , 95,	1.2	1
51	Transport in two-dimensional topological materials: recent developments in experiment and theory. <i>2D Materials</i> , <b>2020</b> , 7, 022007	5.9	43
50	Soliton defects and topological [Formula: see text]-periodic superconductivity from an orbital magnetic field effect in edge Josephson junctions. <i>Journal of Physics Condensed Matter</i> , <b>2019</b> , 31, 175301	1.8	3
49	Chiral current-phase relation of topological Josephson junctions: A signature of the 4 $\pi$ -periodic Josephson effect. <i>Physical Review B</i> , <b>2019</b> , 100,	3.3	1
48	Probing the magnetoelectric effect in noncentrosymmetric superconductors by equal-spin Andreev tunneling. <i>Journal of Physics Condensed Matter</i> , <b>2019</b> , 31, 055301	1.8	2
47	Magnetoelectric Andreev Effect due to Proximity-Induced Nonunitary Triplet Superconductivity in Helical Metals. <i>Physical Review Letters</i> , <b>2017</b> , 118, 016802	7.4	13
46	Observation of the universal magnetoelectric effect in a 3D topological insulator. <i>Nature Communications</i> , <b>2017</b> , 8, 15197	17.4	92
45	Giant spin splitting and 0 $\pi$ -Josephson transitions from the Edelstein effect in quantum spin Hall insulators. <i>Physical Review B</i> , <b>2017</b> , 95,	3.3	6
44	Quantum interference of edge supercurrents in a two-dimensional topological insulator. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	28
43	Superconducting quantum spin Hall systems with giant orbital g factors. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	4
42	Superconducting proximity effect in three-dimensional topological insulators in the presence of a magnetic field. <i>Physical Review B</i> , <b>2015</b> , 92,	3.3	40
41	Nonsinusoidal current-phase relationship in Josephson junctions from the 3D topological insulator HgTe. <i>Physical Review Letters</i> , <b>2015</b> , 114, 066801	7.4	75
40	One-dimensional weak antilocalization due to the berry phase in HgTe wires. <i>Physical Review Letters</i> , <b>2014</b> , 112, 146803	7.4	11
39	Weak localization and Berry flux in topological crystalline insulators with a quadratic surface spectrum. <i>Physical Review B</i> , <b>2013</b> , 88,	3.3	4
38	Terahertz quantum Hall effect of Dirac fermions in a topological insulator. <i>Physical Review B</i> , <b>2013</b> , 87,	3.3	29
37	Spin-helical transport in normal and superconducting topological insulators. <i>Physica Status Solidi (B): Basic Research</i> , <b>2013</b> , 250, 215-232	1.3	64

36	Josephson Supercurrent through the Topological Surface States of Strained Bulk HgTe. <i>Physical Review X</i> , <b>2013</b> , 3,	9.1	60
35	Suppression of surface p-wave superconductivity in disordered topological insulators. <i>Physical Review B</i> , <b>2013</b> , 87,	3.3	30
34	Helical Andreev bound states and superconducting Klein tunneling in topological insulator Josephson junctions. <i>Physical Review B</i> , <b>2013</b> , 88,	3.3	53
33	Two-dimensional topological insulators in quantizing magnetic fields. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2012</b> , 44, 900-905	3	8
32	Induced superconductivity in the three-dimensional topological insulator HgTe. <i>Physical Review Letters</i> , <b>2012</b> , 109, 186806	7.4	51
31	Diffusion on edges of insulating graphene with intravalley and intervalley scattering. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	5
30	Anomalous galvanomagnetism, cyclotron resonance, and microwave spectroscopy of topological insulators. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	24
29	Single valley Dirac fermions in zero-gap HgTe quantum wells. <i>Nature Physics</i> , <b>2011</b> , 7, 418-422	16.2	201
28	Nonmonotonic inelastic tunneling spectra due to surface spin excitations in ferromagnetic junctions. <i>European Physical Journal B</i> , <b>2011</b> , 82, 319-327	1.2	
27	Weak antilocalization in HgTe quantum wells and topological surface states: Massive versus massless Dirac fermions. <i>Physical Review B</i> , <b>2011</b> , 84,	3.3	77
26	Backscattering of Dirac fermions in HgTe quantum wells with a finite gap. <i>Physical Review Letters</i> , <b>2011</b> , 106, 076802	7.4	34
25	Photoabsorption spectra and the X-ray edge problem in graphene. <i>Europhysics Letters</i> , <b>2011</b> , 94, 67002	1.6	4
24	Transition between ordinary and topological insulator regimes in two-dimensional resonant magnetotransport. <i>Physical Review B</i> , <b>2011</b> , 83,	3.3	19
23	Ballistic quantum spin Hall state and enhanced edge backscattering in strong magnetic fields. <i>Physical Review Letters</i> , <b>2010</b> , 104, 166803	7.4	63
22	Doppler shift in Andreev reflection from a moving superconducting condensate in Nb/InAs Josephson junctions. <i>Physical Review B</i> , <b>2009</b> , 80,	3.3	27
21	Coupling between chirality and pseudospin of Dirac fermions: Non-analytical particle-hole asymmetry and a proposal for a tunneling device. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	6
20	Spin-orbit coupling, edge states and quantum spin Hall criticality due to Dirac fermion confinement: the case study of graphene. <i>European Physical Journal B</i> , <b>2009</b> , 69, 499-504	1.2	5
19	Dirac fermion quantization on graphene edges: Isospin-orbit coupling, zero modes, and spontaneous valley polarization. <i>Physical Review B</i> , <b>2009</b> , 79,	3.3	25

18	Spin-polarized tunneling through randomly transparent magnetic junctions: Reentrant magnetoresistance approaching the Jullière limit. <i>Physical Review B</i> , <b>2008</b> , 77,	3-3	4
17	Fine structure of the local pseudogap and Fano effect for superconducting electrons near a zigzag graphene edge. <i>Physical Review B</i> , <b>2007</b> , 76,	3-3	19
16	Effect of magnetic pair breaking on Andreev bound states and resonant supercurrent in quantum dot Josephson junctions. <i>Physical Review B</i> , <b>2007</b> , 75,	3-3	6
15	Nonmetallic thermal transport in low-dimensional proximity structures with partially preserved time-reversal symmetry in a magnetic field. <i>Physica C: Superconductivity and Its Applications</i> , <b>2005</b> , 417, 127-140	1-3	15
14	Andreev magnetotransport in low-dimensional proximity structures: Spin-dependent conductance enhancement. <i>Physical Review B</i> , <b>2005</b> , 71,	3-3	15
13	Geometrical enhancement of the proximity effect in quantum wires with extended superconducting tunnel contacts. <i>Physical Review B</i> , <b>2005</b> , 71,	3-3	42
12	Magnetic field influence on the proximity effect in semiconductor-superconductor hybrid structures and their thermal conductance. <i>Physical Review B</i> , <b>2004</b> , 69,	3-3	27
11	ANDREEV REFLECTION AND SUBGAP TRANSPORT DUE TO ELECTRON-MAGNON INTERACTIONS IN FERROMAGNET-SUPERCONDUCTOR JUNCTIONS. <i>International Journal of Modern Physics B</i> , <b>2003</b> , 17, 5001-5005	1-1	3
10	Magnon-assisted Andreev transport across ferromagnet-superconductor junctions. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , <b>2002</b> , 12, 938-941	3	3
9	Anomalous penetration of an electromagnetic signal in a thin metallic plate under strong magnetodynamic nonlinearity conditions. <i>Journal of Experimental and Theoretical Physics</i> , <b>2001</b> , 93, 630-641	1	1
8	Subgap transport in ferromagnet-superconductor junctions due to magnon-assisted Andreev reflection. <i>Physical Review B</i> , <b>2001</b> , 65,	3-3	31
7	Impedance of a thin metal film in the regime of strong magnetodynamic nonlinearity. <i>Low Temperature Physics</i> , <b>2000</b> , 26, 831-837	0-7	
6	Nonlinear interaction of an electromagnetic wave and a dc current in a metallic film. <i>Low Temperature Physics</i> , <b>2000</b> , 26, 64-71	0-7	1
5	The nonlinear effect of transport current on the response of metals to electromagnetic radiation. <i>Journal of Physics Condensed Matter</i> , <b>2000</b> , 12, 4613-4627	1-8	1
4	Nonstationary effects induced by a strong direct current in a compensated metal. <i>Low Temperature Physics</i> , <b>1999</b> , 25, 895-900	0-7	
3	Non-linear conductivity and magnetoplasma waves in compensated metals and semi-metals. <i>Journal of Physics Condensed Matter</i> , <b>1998</b> , 10, 1033-1052	1-8	2
2	Sign-alternating current structure and oscillations in I-V characteristics of a metal plate. <i>Journal of Physics Condensed Matter</i> , <b>1995</b> , 7, 625-637	1-8	4
1	Current states in a metal plate. <i>Journal of Physics Condensed Matter</i> , <b>1993</b> , 5, 7469-7480	1-8	2

