Liang Fu

List of Publications by Year
in descending order

153 papers	31,954 citations	14124 69 h-index	8034 154 g-index
156 all docs	156 docs citations	156 times ranked	19366 citing authors

#	Article	IF	Citations
1	Superconducting Proximity Effect and Majorana Fermions at the Surface of a Topological Insulator. Physical Review Letters, 2008, 100, 096407.	2.9	3,933
2	Topological Insulators in Three Dimensions. Physical Review Letters, 2007, 98, 106803.	2.9	3,769
3	Topological Crystalline Insulators. Physical Review Letters, 2011, 106, 106802.	2.9	1,561
4	Quantum spin Hall effect in two-dimensional transition metal dichalcogenides. Science, 2014, 346, 1344-1347.	6.0	1,558
5	Topological crystalline insulators in the SnTe material class. Nature Communications, 2012, 3, 982.	5.8	1,146
6	Experimental observation of Weyl points. Science, 2015, 349, 622-624.	6.0	833
7	Transport properties of nonequilibrium systems under the application of light: Photoinduced quantum Hall insulators without Landau levels. Physical Review B, 2011, 84, .	1.1	820
8	Topological Band Theory for Non-Hermitian Hamiltonians. Physical Review Letters, 2018, 120, 146402.	2.9	768
9	Discovery of robust in-plane ferroelectricity in atomic-thick SnTe. Science, 2016, 353, 274-278.	6.0	742
10	Topological nodal line semimetals with and without spin-orbital coupling. Physical Review B, 2015, 92, .	1.1	685
11	Odd-Parity Topological Superconductors: Theory and Application to<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Cu</mml:mi><mml:mi>x</mml:mi></mml:msub><mml:msub><mml:mi>Bi</mml:mi><mml:mi> Physical Review Letters, 2010, 105, 097001.	2.9	679
12	Hexagonal Warping Effects in the Surface States of the Topological Insulator<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Bi</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi>Te</mml:mi><mml:mn Physical Review Letters, 2009, 103, 266801.	2.9	642
13	Topological Crystalline Insulators and Topological Superconductors: From Concepts to Materials. Annual Review of Condensed Matter Physics, 2015, 6, 361-381.	5.2	578
14	Weyl points and line nodes in gyroid photonic crystals. Nature Photonics, 2013, 7, 294-299.	15.6	560
15	Quantum Nonlinear Hall Effect Induced by Berry Curvature Dipole in Time-Reversal Invariant Materials. Physical Review Letters, 2015, 115, 216806.	2.9	560
16	Massive Dirac fermions in a ferromagnetic kagome metal. Nature, 2018, 555, 638-642.	13.7	544
17	Evidence for Majorana bound states in an iron-based superconductor. Science, 2018, 362, 333-335.	6.0	523
18	Majorana Zero Mode Detected with Spin Selective Andreev Reflection in the Vortex of a Topological Superconductor. Physical Review Letters, 2016, 116, 257003.	2.9	494

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19	Valley-selective optical Stark effect in monolayerÂWS2. Nature Materials, 2015, 14, 290-294.	13.3	479
20	Probing Neutral Majorana Fermion Edge Modes with Charge Transport. Physical Review Letters, 2009, 102, 216403.	2.9	478
21	Observation of bulk Fermi arc and polarization half charge from paired exceptional points. Science, 2018, 359, 1009-1012.	6.0	438
22	Maximally Localized Wannier Orbitals and the Extended Hubbard Model for Twisted Bilayer Graphene. Physical Review X, 2018, 8, .	2.8	427
23	Observation of the nonlinear Hall effect under time-reversal-symmetric conditions. Nature, 2019, 565, 337-342.	13.7	372
24	Electron Teleportation via Majorana Bound States in a Mesoscopic Superconductor. Physical Review Letters, 2010, 104, 056402.	2.9	328
25	Spin-filtered edge states with an electrically tunable gap in a two-dimensional topological crystalline insulator. Nature Materials, 2014, 13, 178-183.	13.3	287
26	Observation of Dirac Node Formation and Mass Acquisition in a Topological Crystalline Insulator. Science, 2013, 341, 1496-1499.	6.0	252
27	Electrically switchable Berry curvature dipole in the monolayer topological insulator WTe2. Nature Physics, 2018, 14, 900-906.	6.5	249
28	Symmetry-protected topological photonic crystal in three dimensions. Nature Physics, 2016, 12, 337-340.	6.5	245
29	Unconventional Superconductivity and Density Waves in Twisted Bilayer Graphene. Physical Review X, 2018, 8, .	2.8	240
30	Nematicity and competing orders in superconducting magic-angle graphene. Science, 2021, 372, 264-271.	6.0	223
31	New classes of three-dimensional topological crystalline insulators: Nonsymmorphic and magnetic. Physical Review B, 2015, 91, .	1.1	184
32	Two types of surface states in topological crystalline insulators. Physical Review B, 2013, 88, .	1.1	181
33	Quantum anomalous Hall effect from intertwined moirÃ© bands. Nature, 2021, 600, 641-646.	13.7	181
34	Strain-induced partially flat band, helical snake states and interface superconductivity in topological crystalline insulators. Nature Physics, 2014, 10, 964-969.	6.5	179
35	Self-learning Monte Carlo method. Physical Review B, 2017, 95, .	1.1	179
36	Quantum Oscillation from In-Gap States and a Non-Hermitian Landau Level Problem. Physical Review Letters, 2018, 121, 026403.	2.9	175

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37	Continuous Mott transition in semiconductor moirèsuperlattices. Nature, 2021, 597, 350-354.	13.7	174
38	Nearly quantized conductance plateau of vortex zero mode in an iron-based superconductor. Science, 2020, 367, 189-192.	6.0	172
39	Interfacial ferroelectricity in rhombohedral-stacked bilayer transition metal dichalcogenides. Nature Nanotechnology, 2022, 17, 367-371.	15.6	167
40	Unconventional ferroelectricity in moirÃ© heterostructures. Nature, 2020, 588, 71-76.	13.7	165
41	Topological semimetals with helicoid surfaceÂstates. Nature Physics, 2016, 12, 936-941.	6.5	149
42	Half-integer level shift of vortex bound states in an iron-based superconductor. Nature Physics, 2019, 15, 1181-1187.	6.5	144
43	Topological crystalline insulators and Dirac octets in antiperovskites. Physical Review B, 2014, 90, .	1.1	143
44	Stripe phases in WSe2/WS2 moirÃ© superlattices. Nature Materials, 2021, 20, 940-944.	13.3	137
45	Layer Hall effect in a 2D topological axion antiferromagnet. Nature, 2021, 595, 521-525.	13.7	136
46	Topological Phases Protected by Point Group Symmetry. Physical Review X, 2017, 7, .	2.8	135
47	Topology, Delocalization via Average Symmetry and the Symplectic Anderson Transition. Physical Review Letters, 2012, 109, 246605.	2.9	132
48	Teleportation-based quantum information processing with Majorana zero modes. Physical Review B, 2016, 94, .	1.1	121
49	Parity-Breaking Phases of Spin-Orbit-Coupled Metals with Gyrotropic, Ferroelectric, and Multipolar Orders. Physical Review Letters, 2015, 115, 026401.	2.9	118
50	Rotational Symmetry Breaking in a Trigonal Superconductor Nb-doped <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Bi</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:mrow><mml:mm Physical Review X, 2017, 7, .	2.8	116
51	Experimental Observation of Dirac-like Surface States and Topological Phase Transition in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Pb</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn><mml:mo stretchy="false">(</mml:mo><mml:mn>111</mml:mn><mml:mo stretchy="false">)</m. Physical Review Letters, 2014, 112, 186801.	2.9	109
52	New classes of topological crystalline insulators having surface rotation anomaly. Science Advances, 2019, 5, eaat2374.	4.7	109
53	Magic in twisted transition metal dichalcogenide bilayers. Nature Communications, 2021, 12, 6730.	5.8	109
54	Topological magnetoplasmon. Nature Communications, 2016, 7, 13486.	5.8	108

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55	Magic of high-order van Hove singularity. Nature Communications, 2019, 10, 5769.	5.8	106
56	Crystal Field Effect Induced Topological Crystalline Insulators In Monolayer IVâ€“VI Semiconductors. Nano Letters, 2015, 15, 2657-2661.	4.5	104
57	Large, valley-exclusive Bloch-Siegert shift in monolayer WS ₂. Science, 2017, 355, 1066-1069.	6.0	102
58	Supercurrent diode effect and finite-momentum superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119548119.	3.3	101
59	High-frequency rectification via chiral Bloch electrons. Science Advances, 2020, 6, eaay2497.	4.7	100
60	Odd-Parity Superconductivity in the Vicinity of Inversion Symmetry Breaking in Spin-Orbit-Coupled Systems. Physical Review Letters, 2015, 115, 207002.	2.9	93
61	Theory of interacting topological crystalline insulators. Physical Review B, 2015, 92, .	1.1	90
62	Large, nonsaturating thermopower in a quantizing magnetic field. Science Advances, 2018, 4, eaat2621.	4.7	86
63	Birefringence-like spin transport via linearly polarized antiferromagnetic magnons. Nature Nanotechnology, 2020, 15, 563-568.	15.6	85
64	MoirÃ© quantum chemistry: Charge transfer in transition metal dichalcogenide superlattices. Physical Review B, 2020, 102, .	1.1	85
65	A new Majorana platform in an Fe-As bilayer superconductor. Nature Communications, 2020, 11, 5688.	5.8	84
66	Robust non-Abelian spin liquid and a possible intermediate phase in the antiferromagnetic Kitaev model with magnetic field. Physical Review B, 2018, 97, .	1.1	82
67	Mapping the unconventional orbital texture in topological crystalline insulators. Nature Physics, 2014, 10, 572-577.	6.5	79
68	Superconductivity in three-dimensional spin-orbit coupled semimetals. Physical Review B, 2017, 96, .	1.1	79
69	Self-learning Monte Carlo method and cumulative update in fermion systems. Physical Review B, 2017, 95, .	1.1	74
70	Nematic superconductivity stabilized by density wave fluctuations: Possible application to twisted bilayer graphene. Physical Review B, 2019, 99, .	1.1	70
71	van der Waals Stacking-Induced Topological Phase Transition in Layered Ternary Transition Metal Chalcogenides. Nano Letters, 2017, 17, 467-475.	4.5	67
72	Pairing States of Spin- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mfrac><mml:mn>3</mml:mn><mml:mn>2</mml:mn></mml:mfrac></mml:math> Fermions: Symmetry-Enforced Topological Gap Functions. Physical Review X, 2018, 8, .	2.8	67

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73	Self-learning Monte Carlo with deep neural networks. Physical Review B, 2018, 97, .	1.1	65
74	Spin texture on the warped Dirac-cone surface states in topological insulators. Physical Review B, 2011, 84, .	1.1	64
75	Clean 2D superconductivity in a bulk van der Waals superlattice. Science, 2020, 370, 231-236.	6.0	64
76	Self-learning quantum Monte Carlo method in interacting fermion systems. Physical Review B, 2017, 96, .	1.1	61
77	Electron mean-free-path filtering in Dirac material for improved thermoelectric performance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 879-884.	3.3	61
78	Topology on a new facet of bismuth. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13255-13259.	3.3	61
79	Universal Josephson diode effect. Science Advances, 2022, 8, .	4.7	58
80	Topological crystalline insulator nanomembrane with strain-tunable band gap. Nano Research, 2015, 8, 967-979.	5.8	56
81	Identification of nematic superconductivity from the upper critical field. Physical Review B, 2016, 94, .	1.1	56
82	Electronic structures, charge transfer, and charge order in twisted transition metal dichalcogenide bilayers. Physical Review B, 2021, 103, .	1.1	56
83	Self-learning Monte Carlo method: Continuous-time algorithm. Physical Review B, 2017, 96, .	1.1	55
84	Spin-textured Chern bands in AB-stacked transition metal dichalcogenide bilayers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	54
85	Anomalous supercurrent from Majorana states in topological insulator Josephson junctions. Physical Review B, 2013, 88, .	1.1	53
86	Interaction-Driven Spontaneous Quantum Hall Effect on a Kagome Lattice. Physical Review Letters, 2016, 117, 096402.	2.9	52
87	Proximity-effect-induced superconducting phase in the topological insulator Bi<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>2</mml:mn></mml:msub></mml:math>Se<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mrow /><mml:mn>3</mml:mn></mml:msub></mml:math>. Physical Review B, 2012, 86, .	1.1	51
88	DMFT Reveals the Non-Hermitian Topology and Fermi Arcs in Heavy-Fermion Systems. Physical Review Letters, 2020, 125, 227204.	2.9	50
89	Chiral Topological Superconductors Enhanced by Long-Range Interactions. Physical Review Letters, 2018, 120, 017001.	2.9	49
90	Enhanced Superconductivity in Monolayer T_d-MoTe₂. Nano Letters, 2021, 21, 2505-2511.	4.5	49

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91	de Haas-van Alphen effect of correlated Dirac states in kagome metal Fe3Sn2. Nature Communications, 2019, 10, 4870.	5.8	48
92	Quantum frequency doubling in the topological insulator Bi2Se3. Nature Communications, 2021, 12, 698.	5.8	48
93	Weak topological insulators in PbTe/SnTe superlattices. Physical Review B, 2014, 89, .	1.1	46
94	Discovery of segmented Fermi surface induced by Cooper pair momentum. Science, 2021, 374, 1381-1385.	6.0	45
95	Majorana zero modes in impurity-assisted vortex of LiFeAs superconductor. Nature Communications, 2021, 12, 4146.	5.8	44
96	Charge transfer excitations, pair density waves, and superconductivity in moirÃ© materials. Physical Review B, 2020, 102, .	1.1	44
97	Quantized thermoelectric Hall effect induces giant power factor in a topological semimetal. Nature Communications, 2020, 11, 6167.	5.8	43
98	Observation of topological superconductivity in a stoichiometric transition metal dichalcogenide 2M-WS2. Nature Communications, 2021, 12, 2874.	5.8	43
99	Parity-Controlled <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>2</mml:mn><mml:mi>Ï€</mml:mi></mml:math> Josephson Effect Mediated by Majorana Kramers Pairs. Physical Review Letters, 2018, 120, 267002.	2.9	41
100	Terahertz detection based on nonlinear Hall effect without magnetic field. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	40
101	Three-dimensional Majorana fermions in chiral superconductors. Science Advances, 2016, 2, e1601835.	4.7	38
102	Topological Phase Transitions in Multicomponent Superconductors. Physical Review Letters, 2017, 119, 187003.	2.9	38
103	Bulk Entanglement Spectrum Reveals Quantum Criticality within a Topological State. Physical Review Letters, 2014, 113, 106801.	2.9	37
104	Spin-valley density wave in moirÃ© materials. Physical Review B, 2019, 100, .	1.1	36
105	Observation of a thermoelectric Hall plateau in the extreme quantum limit. Nature Communications, 2020, 11, 1046.	5.8	35
106	Graphene moirÃ© superlattices with giant quantum nonlinearity of chiral Bloch electrons. Nature Nanotechnology, 2022, 17, 378-383.	15.6	35
107	Zeeman-induced gapless superconductivity with a partial Fermi surface. Physical Review B, 2018, 97, .	1.1	34
108	Majorana Superconducting Qubit. Physical Review Letters, 2018, 121, 267002.	2.9	34

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109	In-Plane Ferroelectric Tunnel Junction. Physical Review Applied, 2019, 11, .	1.5	34
110	Spin-orbital ground states of superconducting doped topological insulators: A Majorana platform. Physical Review B, 2011, 83, .	1.1	33
111	Anomalous Crystal Symmetry Fractionalization on the Surface of Topological Crystalline Insulators. Physical Review Letters, 2015, 115, 236801.	2.9	33
112	MoirÃ© Surface States and Enhanced Superconductivity in Topological Insulators. Physical Review X, 2021, 11, .	2.8	33
113	Magnus Hall Effect. Physical Review Letters, 2019, 123, 216802.	2.9	30
114	Charge- <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mn>4</mml:mn><mml:mi>e</mml:mi></mml:math> Superconductivity from Multicomponent Nematic Pairing: Application to Twisted Bilayer Graphene. Physical Review Letters, 2021, 127, 047001.	2.9	30
115	Topological crystalline insulator states in the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ca</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> family. Physical Review B, 2018, 98, .	3.2	28
116	Orthogonal magnetization and symmetry breaking in pyrochlore iridate Eu2Ir2O7. Nature Physics, 2017, 13, 599-603.	6.5	27
117	Topologically Entangled Rashba-Split Shockley States on the Surface of Grey Arsenic. Physical Review Letters, 2017, 118, 046802.	2.9	27
118	Excitonic density wave and spin-valley superfluid in bilayer transition metal dichalcogenide. Nature Communications, 2021, 12, 642.	5.8	27
119	Electron teleportation and statistical transmutation in multiterminal Majorana islands. Physical Review B, 2017, 96, .	1.1	21
120	Quantum Anomalous Hall Effect from Inverted Charge Transfer Gap. Physical Review X, 2022, 12, .	2.8	20
121	Topological metals and finite-momentum superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	19
122	Enhanced anomalous Nernst effect in disordered Dirac and Weyl materials. Physical Review B, 2021, 103, .	1.1	19
123	Noncollinear Magnetic Structure and Multipolar Order in Eu2Ir2O7. Physical Review Letters, 2017, 119, 187203.	2.9	18
124	Anisotropy-driven transition from the Moore-Read state to quantum Hall stripes. Physical Review B, 2017, 95, .	1.1	18
125	Tensor network implementation of bulk entanglement spectrum. Physical Review B, 2014, 90, .	1.1	17
126	Odd-Parity Superconductivity near an Inversion Breaking Quantum Critical Point in One Dimension. Physical Review Letters, 2017, 118, 227001.	2.9	17

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127	Numerical Study of Quantum Hall Bilayers at Total Filling <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Î½</mml:mi><mml:mi>T</mml:mi></mml:msub><mml:mo>=</mml:mo><mml:mn>1</mml:mn> : A New Phase at Intermediate Layer Distances. Physical Review Letters, 2017, 119, 177601.	2.9	17
128	Josephson detection of time-reversal symmetry broken superconductivity in SnTe nanowires. Npj Quantum Materials, 2021, 6, .	1.8	16
129	Unconventional superconductivity due to interband polarization. Physical Review B, 2022, 105, .	1.1	16
130	Interlayer Pairing Symmetry of Composite Fermions in Quantum Hall Bilayers. Physical Review Letters, 2017, 118, 166401.	2.9	15
131	Quantum Hall Ferroelectrics and Nematics in Multivalley Systems. Physical Review X, 2017, 7, .	2.8	15
132	New mechanism and exact theory of superconductivity from strong repulsive interaction. Science Advances, 2021, 7, .	4.7	15
133	Spin-triplet superconductivity from excitonic effect in doped insulators. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2117735119.	3.3	15
134	Creating Majorana modes from segmented Fermi surface. Nature Communications, 2021, 12, 577.	5.8	13
135	Observation of ultrahigh mobility surface states in a topological crystalline insulator by infrared spectroscopy. Nature Communications, 2017, 8, 366.	5.8	12
136	Scalable fermionic error correction in Majorana surface codes. Physical Review B, 2019, 99, .	1.1	10
137	Multiple In-Gap States Induced by Topological Surface States in the Superconducting Topological Crystalline Insulator Heterostructure <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>Sn</mml:mi></mml:mrow><mml:mrow><mml:mn>1</mml:mn> Physical Review Letters, 2020, 125, 136802.	2.9	10
138	Ferromagnetic helical nodal line and Kane-Mele spin-orbit coupling in kagome metal <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:msub><mml:mrow><mml:mi>Fe</mml:mi></mml:mrow><mml:mrow><mml:mn>3</mml:mn> Physical Review B, 2022, 105, .	1.1	10
139	Finding a direction. Nature Physics, 2016, 12, 822-823.	6.5	9
140	Topological crystalline magnets: Symmetry-protected topological phases of fermions. Physical Review B, 2017, 95, .	1.1	9
141	Ferromagnetic transition in a one-dimensional spin-orbit-coupled metal and its mapping to a critical point in smectic liquid crystals. Physical Review B, 2017, 96, .	1.1	9
142	Valley Stoner instability of the composite Fermi sea. Physical Review B, 2018, 98, .	1.1	9
143	Spin-Orbital Density Wave and a Mott Insulator in a Two-Orbital Hubbard Model on a Honeycomb Lattice. Physical Review Letters, 2019, 123, 087602.	2.9	9
144	Tunable Magnonic Chern Bands and Chiral Spin Currents in Magnetic Multilayers. Physical Review Letters, 2022, 128, .	2.9	9

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145	Formation mechanism of twin domain boundary in 2D materials: The case for WTe2. Nano Research, 2019, 12, 569-573.	5.8	7
146	Topological magnetic textures in magnetic topological insulators. Physical Review Research, 2021, 3, .	1.3	7
147	Coexistence of antiferromagnetism and topological superconductivity on the honeycomb lattice Hubbard model. Physical Review B, 2020, 102, .	1.1	6
148	Signatures of bosonic Landau levels in a finite-momentum superconductor. Nature, 2021, 599, 51-56.	13.7	5
149	Supercurrent parity meter in a nanowire Cooper pair transistor. Science Advances, 2022, 8, eabm9896.	4.7	5
150	Loops, sign structures, and emergent Fermi statistics in three-dimensional quantum dimer models. Physical Review B, 2014, 89, .	1.1	3
151	Local probes for quantum Hall ferroelectrics and nematics. Physical Review B, 2020, 101, .	1.1	3
152	Thermoelectric response and entropy of fractional quantum Hall systems. Physical Review B, 2020, 101, .	1.1	2
153	Superconducting Proximity Effect and Majorana Fermions at the Surface of a Topological Insulator. Topologica, 2009, 2, 013.	0.3	1