

Serguei Brazovskii

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/1508187/publications.pdf>

Version: 2024-02-01

152
papers

3,186
citations

218381

26
h-index

168136

53
g-index

162
all docs

162
docs citations

162
times ranked

2717
citing authors

#	ARTICLE	IF	CITATIONS
1	Ultrafast Switching to a Stable Hidden Quantum State in an Electronic Crystal. <i>Science</i> , 2014, 344, 177-180.	6.0	502
2	Ferroelectric Mott-Hubbard Phase of Organic(TMTTF) ₂ X Conductors. <i>Physical Review Letters</i> , 2001, 86, 4080-4083.	2.9	245
3	Coherent dynamics of macroscopic electronic order through a symmetry breaking transition. <i>Nature Physics</i> , 2010, 6, 681-684.	6.5	189
4	Fast electronic resistance switching involving hidden charge density wave states. <i>Nature Communications</i> , 2016, 7, 11442.	5.8	151
5	Pinning and sliding of driven elastic systems: from domain walls to charge density waves. <i>Advances in Physics</i> , 2004, 53, 177-252.	35.9	141
6	Controlling the metal-to-insulator relaxation of the metastable hidden quantum state in 1T-TaS ₂ . <i>Science Advances</i> , 2015, 1, e1500168.	4.7	128
7	Physical theory of excitons in conducting polymers. <i>Chemical Society Reviews</i> , 2010, 39, 2453.	18.7	118
8	Singlet exciton binding energy in poly(phenylene vinylene). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2001, 98, 13496-13500.	3.3	84
9	Direct Observation of Charge Density Wave Current Conversion by Spatially Resolved Synchrotron X-Ray Studies in NbSe ₃ . <i>Physical Review Letters</i> , 1998, 80, 5631-5634.	2.9	70
10	A systematic theory for optical properties of phenylene-based polymers. <i>Synthetic Metals</i> , 1999, 100, 29-53.	2.1	67
11	Plastic sliding of charge density waves: X-ray space resolved-studies versus theory of current conversion. <i>Physical Review B</i> , 2000, 61, 10640-10650.	1.1	51
12	Intertwined chiral charge orders and topological stabilization of the light-induced state of a prototypical transition metal dichalcogenide. <i>Npj Quantum Materials</i> , 2019, 4, .	1.8	51
13	On the theory of phase transitions in organic superconductors. <i>Journal De Physique (Paris), Lettres</i> , 1985, 46, 111-116.	2.8	51
14	Insulator-metal transition in Rb ₄ C ₆₀ under pressure from ¹³ C-NMR. <i>Journal of Physics and Chemistry of Solids</i> , 1996, 57, 143-152.	1.9	47
15	Scanning-Tunneling Microscope Imaging of Single-Electron Solitons in a Material with Incommensurate Charge-Density Waves. <i>Physical Review Letters</i> , 2012, 108, 096801.	2.9	45
16	NMR in the 2D Organic Superconductors. <i>Journal De Physique, I</i> , 1996, 6, 2011-2041.	1.2	43
17	Excitations and optical properties of phenylene-based conjugated polymers and oligomers. <i>Optical Materials</i> , 1998, 9, 472-479.	1.7	41
18	Observation of Charge Density Wave Solitons in Overlapping Tunnel Junctions. <i>Physical Review Letters</i> , 2005, 95, 266402.	2.9	39

#	ARTICLE	IF	CITATIONS
19	On origin of the low-temperature, low-frequency dielectric susceptibility peak in Charge and Spin Density Waves. Solid State Communications, 1995, 93, 275-279.	0.9	36
20	Domain walls at the spin-density-wave endpoint of the organic superconductor $TMTSP$ under pressure. Physical Review B, 2010, 81, .	1.1	35
21	Surface Charge Density Wave Phase Transition in NbS_3 . Physical Review Letters, 2010, 104, 256403.	2.9	32
22	Three-dimensional resistivity and switching between correlated electronic states in 1T-TaS ₂ . Scientific Reports, 2017, 7, 46048.	1.6	32
23	Subgap Collective Tunneling and Its Staircase Structure in Charge Density Waves. Physical Review Letters, 2006, 96, 116402.	2.9	31
24	Disorder effects on the charge-density waves structure in V- and W-doped blue bronzes: Friedel oscillations and charge-density wave pinning. Physical Review B, 2006, 74, .	1.1	29
25	Theory of electronic states and excitations in PPV. Optical Materials, 1998, 9, 465-471.	1.7	28
26	Exciton binding energy in poly(phenylene vinylene). Synthetic Metals, 2001, 125, 93-98.	2.1	27
27	Contact kinetics in conducting polymers. Synthetic Metals, 1996, 76, 229-232.	2.1	26
28	Stability of bipolarons in conjugated polymers. Optical Materials, 1998, 9, 502-506.	1.7	26
29	Friedel oscillations and charge-density wave pinning in quasi-one-dimensional conductors: An x-ray diffraction study. Physical Review B, 2000, 62, R16231-R16234.	1.1	26
30	Direct observation of temperature-dependent Fermi surface nesting vectors in a quasi-one-dimensional conductor. Journal of Physics Condensed Matter, 2000, 12, L191-L198.	0.7	24
31	Interlayer tunnelling spectroscopy of the charge density wave state in NbSe ₃ . Journal of Physics A, 2003, 36, 9323-9335.	1.6	24
32	Modeling of networks and globules of charged domain walls observed in pump and pulse induced states. Scientific Reports, 2018, 8, 4043.	1.6	22
33	X-ray scattering evidence for macroscopic strong pinning centers in the sliding CDW state of NbSe ₃ . Europhysics Letters, 2001, 56, 289-295.	0.7	21
34	Towards the theory of metal-polymer contact. Synthetic Metals, 1993, 57, 4385-4392.	2.1	19
35	On the current conversion problem in charge density wave crystals. I. Solitons. Journal De Physique, I, 1991, 1, 269-280.	1.2	19
36	On the possible superfluidity of bipolarons on the junction surface. Solid State Communications, 1985, 55, 187-191.	0.9	18

#	ARTICLE	IF	CITATIONS
37	Stability of bipolarons in conjugated polymers. <i>Synthetic Metals</i> , 1999, 101, 325-326.	2.1	18
38	Electric field induced ionization of the exciton in poly(phenylene vinylene). <i>Synthetic Metals</i> , 2001, 119, 503-506.	2.1	18
39	The charge density wave structure near a side metal contact. <i>Journal De Physique, I</i> , 1992, 2, 409-422.	1.2	17
40	Optics of polymers in the light of solid state physics. <i>Synthetic Metals</i> , 2001, 125, 129-138.	2.1	16
41	Solitons and Their Arrays: From Quasi 1D Conductors to Stripes. <i>Journal of Superconductivity and Novel Magnetism</i> , 2007, 20, 489-493.	0.8	16
42	A general approach to charge/spin density waves electrodynamics. <i>Journal De Physique, I</i> , 1993, 3, 2417-2435.	1.2	15
43	Two-Dimensional Vortex Melting in BEDT Organic Superconductors and NMR Relaxation Induced by Vortex Structure Defects. <i>Physical Review Letters</i> , 1996, 76, 4951-4954.	2.9	15
44	Suppression of the magneto resistance in high electric fields of polyacetylene nanofibers. <i>Synthetic Metals</i> , 2010, 160, 1349-1353.	2.1	14
45	On the current conversion problem in charge density wave crystals. II. Dislocations. <i>Journal De Physique, I</i> , 1991, 1, 1173-1185.	1.2	14
46	Possible superconductivity on the junction surface of dielectric La ₂ CuO ₄ . <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1988, 132, 290-292.	0.9	13
47	Thermal dependence of the x-ray white-line interference effect for charge-density waves in alloys of organic conductors. <i>Physical Review B</i> , 1997, 55, 3426-3434.	1.1	13
48	Sliding-Induced Decoupling and Charge Transfer between the Coexisting Q ₁ and Q ₂ Charge Density Waves in NbSe ₃ . <i>Physical Review Letters</i> , 2004, 93, 106404.	2.9	13
49	Optical excitation in the creep phase of plastic charge-density waves. <i>Physical Review B</i> , 2005, 71, .	1.1	13
50	Hall effect in the pinned and sliding charge density wave state of NbSe ₃ . <i>Journal of Physics Condensed Matter</i> , 2009, 21, 435601.	0.7	13
51	Exactly soluble peierls models. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1982, 91, 40-42.	0.9	12
52	Spin excitations carry charge currents: one-dimensional Hubbard model. <i>Journal De Physique, I</i> , 1994, 4, 571-578.	1.2	12
53	Insulator-metal transition in Rb ₄ C ₆₀ under pressure: Jahn-Teller theory versus NMR experiments. <i>Synthetic Metals</i> , 1996, 77, 205-208.	2.1	11
54	Ferroelectricity: From organic conductors to conducting polymers. <i>Physica B: Condensed Matter</i> , 2009, 404, 382-384.	1.3	11

#	ARTICLE	IF	CITATIONS
55	Modeling of Evolution of a Complex Electronic System to an Ordered Hidden State: Application to Optical Quench in 1T-TaS ₂ . Journal of Superconductivity and Novel Magnetism, 2015, 28, 1349-1353.	0.8	11
56	The ferroelectric Mott-Hubbard phase in organic conductors. Synthetic Metals, 2003, 137, 1331-1333.	2.1	10
57	New routes to solitons in quasi-one-dimensional conductors. Solid State Sciences, 2008, 10, 1786-1789.	1.5	10
58	Electronic ferroelectricity in carbon based materials. Synthetic Metals, 2016, 216, 11-22.	2.1	10
59	Statistics of charged solitons and formation of stripes. Journal of Physics Condensed Matter, 2001, 13, 4015-4031.	0.7	9
60	Interlayer tunneling spectroscopy of layered CDW materials. European Physical Journal Special Topics, 2005, 131, 197-202.	0.2	9
61	Solitons: From charge density waves to FFLO in superconductors. Physica B: Condensed Matter, 2009, 404, 482-486.	1.3	9
62	Pseudogaps in incommensurate charge density waves and one-dimensional semiconductors. Journal of Experimental and Theoretical Physics, 2003, 96, 555-563.	0.2	8
63	Electronic interactions and excitons in conducting polymers. Current Applied Physics, 2004, 4, 473-478.	1.1	8
64	Conjugated polymers at the verge of strongly correlated systems and 1D semiconductors. Synthetic Metals, 2004, 141, 139-147.	2.1	8
65	Probing spin-charge relation by magnetoconductance in one-dimensional polymer nanofibers. Physical Review B, 2012, 86, .	1.1	8
66	Interlayer tunnelling spectroscopy of charge density waves. Superconductor Science and Technology, 2007, 20, S87-S92.	1.8	7
67	Modeling of dynamics of field-induced transformations in charge density waves. European Physical Journal: Special Topics, 2013, 222, 1035-1046.	1.2	7
68	Coherent topological defect dynamics and collective modes in superconductors and electronic crystals. Journal of Physics Condensed Matter, 2013, 25, 404206.	0.7	7
69	Direct observation of single-electron solitons and Friedel oscillations in a quasi-one dimensional material with incommensurate charge-density waves. Physica B: Condensed Matter, 2015, 460, 88-92.	1.3	7
70	Dynamical patterns of phase transformations from self-trapping of quantum excitons. Physica B: Condensed Matter, 2015, 460, 73-78.	1.3	7
71	From chiral anomaly to two-fluid hydrodynamics for electronic vortices. Annals of Physics, 2019, 403, 184-197.	1.0	7
72	Space-time distributions of solitons for the current conversion problem in charge density waves. Journal De Physique, I, 1992, 2, 725-740.	1.2	7

#	ARTICLE	IF	CITATIONS
73	SOLITONS IN CHARGE AND SPIN DENSITY WAVE SYSTEMS. Journal De Physique Colloque, 1983, 44, C3-1525-C3-1530.	0.2	7
74	Solitons, Twistons, Bubbles and Crystallinity in Conducting Polymers. Molecular Crystals and Liquid Crystals, 1992, 216, 151-156.	0.3	6
75	Optical and electrooptical absorption in conducting polymers. Thin Solid Films, 2002, 403-404, 419-424.	0.8	6
76	The theory for the ferroelectric Mott-Hubbard phase in organic conductors. Synthetic Metals, 2003, 133-134, 301-303.	2.1	6
77	Soluble model for X-ray scattering from CDWs with dislocations. European Physical Journal Special Topics, 2005, 131, 147-150.	0.2	6
78	Recent views on solitons in Density Waves. European Physical Journal Special Topics, 2005, 131, 77-80.	0.2	6
79	Subgap tunneling through channels of polarons and bipolarons in chain conductors. Physical Review B, 2005, 72, .	1.1	6
80	Method of interlayer tunneling for studies of layered high temperature superconductors and charge density wave materials. Physica Status Solidi C: Current Topics in Solid State Physics, 2006, 3, 3110-3113.	0.8	6
81	Appearance of dislocation arrays in moving or strained charge density waves. Physica B: Condensed Matter, 2009, 404, 565-569.	1.3	6
82	Ferroelectricity in synthetic metals: Reality and hypotheses. Synthetic Metals, 2009, 159, 2205-2207.	2.1	6
83	Phase transitions in ensembles of solitons induced by an optical pumping or a strong electric field. Physical Review B, 2016, 94, .	1.1	6
84	Charge density wave structure near a side metal contact. Synthetic Metals, 1993, 56, 2696-2701.	2.1	5
85	Nonlinear conduction and anomalous susceptibility of sliding electronic crystals: Charge and spin density waves. Synthetic Metals, 1997, 86, 2223-2224.	2.1	5
86	The model for optical properties of PPP-type polymers.. Synthetic Metals, 1999, 101, 271-272.	2.1	5
87	Excitations and optical properties of phenylene based polymers. Synthetic Metals, 1999, 101, 188-191.	2.1	5
88	Excitations and optical properties of phenylene based polymers: effects of electric field. Synthetic Metals, 2001, 119, 651-652.	2.1	5
89	Unified theory for optics of conducting polymers. Synthetic Metals, 2003, 135-136, 461-462.	2.1	5
90	Modeling of nonlinear and non-stationary multi-vortex behavior of CDWs at nanoscales in restricted geometries of internal junctions. Physica B: Condensed Matter, 2012, 407, 1839-1844.	1.3	5

#	ARTICLE	IF	CITATIONS
91	Excitonic Mechanism of Local Phase Transformations by Optical Pumping. Journal of Superconductivity and Novel Magnetism, 2014, 27, 1009-1013.	0.8	5
92	Multi-vortex Dynamics in Junctions of Charge Density Waves. Journal of Superconductivity and Novel Magnetism, 2015, 28, 1343-1347.	0.8	5
93	Critical dynamics and domain motion from permittivity of the electronic ferroelectric (TMTTF) ₂ AsF ₆ . Physica B: Condensed Matter, 2015, 460, 79-82.	1.3	5
94	Multi-Fluid Hydrodynamics in Charge Density Waves with Collective, Electronic, and Solitonic Densities and Currents. Journal of Experimental and Theoretical Physics, 2019, 129, 659-668.	0.2	5
95	Solitons in Crystals of Charge Density Waves. Modern Problems in Condensed Matter Sciences, 1989, 25, 425-446.	0.1	5
96	Topological character of excitations in strongly correlated electronic systems : Confinement and dimensional crossover. European Physical Journal Special Topics, 2000, 10, Pr3-169-Pr3-175.	0.2	5
97	The influence of phonons on the optical properties and the conductivity of quasi-one-dimensional metals. Solid State Communications, 1981, 38, 745-748.	0.9	4
98	Dopant complexes and their effect on optical and contact processes. Synthetic Metals, 1997, 85, 1413-1414.	2.1	4
99	NMR in the (BEDT) ₂ X organic superconductors. Synthetic Metals, 1997, 85, 1511-1514.	2.1	4
100	Condensed matter physics for non-destructive 100T magnets. Physica B: Condensed Matter, 1998, 246-247, 61-66.	1.3	4
101	Microscopic solitons in correlated electronic systems: theory versus experiment. , 2009, , .		4
102	Reconstruction of the Charge Density Wave State Under the Applied Electric Field. Journal of Superconductivity and Novel Magnetism, 2012, 25, 1323-1327.	0.8	4
103	Modeling of dislocations in a CDW junction: Interference of the CDW and normal carriers. Physica B: Condensed Matter, 2015, 460, 16-20.	1.3	4
104	Friedel oscillations and charge density wave pinning in quasi-one dimensional conductors: Thermal effects. European Physical Journal Special Topics, 2002, 12, 9-14.	0.2	3
105	Theory of the ferroelectric phase in organic conductors: From physics of solitons to optics. European Physical Journal Special Topics, 2004, 114, 9-13.	0.2	3
106	Theory of subgap interchain tunneling in quasi 1D conductors. Physical Review B, 2008, 77, .	1.1	3
107	Femtosecond Coherent Non-equilibrium Electronic Ordering and Dynamics of Topological Defect in Charge Density Waves. Journal of Superconductivity and Novel Magnetism, 2011, 24, 1191-1193.	0.8	3
108	Non-linear transport by solitons in nanofibers of polymers in high magnetic field. Physica B: Condensed Matter, 2012, 407, 1939-1942.	1.3	3

#	ARTICLE	IF	CITATIONS
109	Dynamical phase transitions and pattern formation induced by a pulse pumping of excitons to a system near a thermodynamic instability. <i>Physical Review B</i> , 2016, 94, .	1.1	3
110	Hall voltage drives pulsing counter-currents of the sliding charge density wave and of quantized normal carriers at self-filled Landau levels. <i>Npj Quantum Materials</i> , 2017, 2, .	1.8	3
111	Phase transitions and pattern formation in ensembles of phase-amplitude solitons in quasi-one-dimensional electronic systems. <i>Physical Review E</i> , 2019, 99, 022114.	0.8	3
112	On the theory of the superconducting phase in organic conductors. <i>Journal De Physique</i> , 1986, 47, 175-180.	1.8	3
113	Exactly solvable XY model of the spin Peierls transition. <i>Journal of Statistical Physics</i> , 1985, 38, 115-124.	0.5	2
114	High resolution X-ray scattering techniques for studying the sliding CDWS distortions, in NbSe ₃ . <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2001, 467-468, 1010-1013.	0.7	2
115	Evolution of the spin-density wave-superconductivity texture in the organic superconductor (TMTSF) ₂ PF ₆ under pressure. <i>Physica B: Condensed Matter</i> , 2012, 407, 1806-1809.	1.3	2
116	Charge-density waves studied at the surface and at the atomic scale in NbSe ₃ . <i>Physica B: Condensed Matter</i> , 2012, 407, 1845-1847.	1.3	2
117	The excitonic insulator route through a dynamical phase transition induced by an optical pulse. <i>Journal of Experimental and Theoretical Physics</i> , 2016, 122, 412-425.	0.2	2
118	Phase Slips, Dislocations, Half-Integer Vortices, Two-Fluid Hydrodynamics, and the Chiral Anomaly in Charge and Spin Density Waves. <i>Journal of Experimental and Theoretical Physics</i> , 2021, 132, 714-726.	0.2	2
119	Topological defects in spin density waves. <i>European Physical Journal Special Topics</i> , 2000, 10, Pr3-183-Pr3-189.	0.2	2
120	Hydrodynamic theory of plastic flows with conversion. <i>European Physical Journal Special Topics</i> , 2002, 12, 173-176.	0.2	2
121	Pattern Formation and Aggregation in Ensembles of Solitons in Quasi One-Dimensional Electronic Systems. <i>Symmetry</i> , 2022, 14, 972.	1.1	2
122	Solitons in charge density wave crystals. <i>Synthetic Metals</i> , 1991, 43, 4019-4024.	2.1	1
123	Solitons and crystallinity in conducting polymers. <i>Synthetic Metals</i> , 1991, 43, 3639-3642.	2.1	1
124	The current conversion kinetics in charge density waves. <i>Synthetic Metals</i> , 1993, 56, 2702-2707.	2.1	1
125	Plastic sliding, strained states and current conversion in Density Waves. <i>Synthetic Metals</i> , 1999, 103, 2589-2592.	2.1	1
126	Topological character of excitations in strongly correlated electronic systems: confinement and dimensional crossover. <i>Synthetic Metals</i> , 2003, 133-134, 41-43.	2.1	1

#	ARTICLE	IF	CITATIONS
127	Theory of subgap interchain tunneling in quasi 1D conductors. European Physical Journal Special Topics, 2005, 131, 83-86.	0.2	1
128	Victor J. Emery and recent applications of his ideas. Synthetic Metals, 2005, 152, 309-312.	2.1	1
129	Polarons near Van Hove points in 2D charge or spin density waves. Physica B: Condensed Matter, 2009, 404, 552-555.	1.3	1
130	Electronic ferroelectricity in carbon-based systems: from reality of organic conductors to promises of polymers and graphene nano-ribbons. Journal of Physics: Conference Series, 2014, 486, 012009.	0.3	1
131	Intrinsic defects in density waves. European Physical Journal Special Topics, 1993, 03, C2-185-C2-187.	0.2	1
132	X-ray diffraction from pinned charge density waves. European Physical Journal Special Topics, 1999, 09, Pr10-23-Pr10-26.	0.2	1
133	Conduction and optical effects in the plastic charge-density waves. European Physical Journal Special Topics, 2005, 131, 123-124.	0.2	1
134	Theory of the ferroelectric Mott-Hubbard phase in organic conductors. European Physical Journal Special Topics, 2002, 12, 149-152.	0.2	1
135	Amplitude solitons in spin density wave systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 140, 44-46.	0.9	0
136	Quantization and soliton charge in the Peierls model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1989, 140, 47-50.	0.9	0
137	Symmetry of electronic states in antiferromagnets; applications to CuO ₂ planes. Physica C: Superconductivity and Its Applications, 1991, 185-189, 1583-1584.	0.6	0
138	Vortex dynamics in organic superconductors. Synthetic Metals, 1997, 85, 1487-1491.	2.1	0
139	Electrons, excitons and insulator-metal phase transition in A ₄ C ₆₀ and A ₂ C ₆₀ . Synthetic Metals, 1997, 86, 2385-2386.	2.1	0
140	Combined topological defects in spin density waves and the NBN generation. Synthetic Metals, 1999, 103, 1831-1832.	2.1	0
141	Phase slippage at the interface: normal metal/sliding charge-density wave. Physica B: Condensed Matter, 2000, 280, 317-322.	1.3	0
142	Friedel oscillations and charge-density waves pinning in quasi-one-dimensional conductors. Synthetic Metals, 2001, 120, 1075-1076.	2.1	0
143	Confinement, dimensional crossover and topological coupling in quasi one dimensional electronic systems. Synthetic Metals, 2001, 120, 691-694.	2.1	0
144	New Insight to Excitons in Conjugated Polymers. ChemInform, 2005, 36, no.	0.1	0

#	ARTICLE	IF	CITATIONS
145	Switching effects and sliding-induced charge transfer between the coexisting Q1 and Q2 charge density waves in NbSe ₃ . European Physical Journal Special Topics, 2005, 131, 125-127.	0.2	0
146	Self-trapping and Binding of Particles from Singular Pockets in a Weakly Doped AFM Mott Insulator. Journal of Superconductivity and Novel Magnetism, 2009, 22, 229-233.	0.8	0
147	Inhomogeneous and nonstationary Hall states of the CDW with quantized normal carriers. Physica B: Condensed Matter, 2015, 460, 236-240.	1.3	0
148	Theory of pseudogaps in charge density waves in application to photo electron spectroscopy. European Physical Journal Special Topics, 2002, 12, 73-73.	0.2	0
149	Friedel oscillation and charge density wave pinning in vanadium-doped blue bronze. European Physical Journal Special Topics, 2002, 12, 79-80.	0.2	0
150	Universality of charge/spin density waves linear properties. European Physical Journal Special Topics, 1993, 03, C2-267-C2-272.	0.2	0
151	Intrinsic Defects and Plasticity in Charge and Spin Density Waves. NATO ASI Series Series B: Physics, 1996, , 465-473.	0.2	0
152	Ultrafast optical switching between hidden states of electronic matter under non-equilibrium conditions. , 2016, , .		0