Zoran Ivic

List of Publications by Year in descending order

74 papers	621 citations	759233 12 h-index	642732 23 g-index
74 all docs	74 docs citations	74 times ranked	182 citing authors

#	Article	IF	Citations
1	Unification of polaron and soliton theories of exciton transport. Physical Review B, 1989, 40, 9876-9887.	3.2	139
2	Soliton excitations of a small-polaron band. Physical Review Letters, 1989, 63, 426-429.	7.8	45
3	Self-trapping in quasi-one-dimensional electron- and exciton-phonon systems. Physical Review B, 1993, 48, 3721-3733.	3.2	45
4	Effects of quantum lattice fluctuations on multiquanta Davydov-like solitons in a molecular chain. Journal of Physics Condensed Matter, 1997, 9, 413-426.	1.8	29
5	Biphonons in the -Fermiâ€“Pastaâ€“Ulam model. Physica D: Nonlinear Phenomena, 2006, 216, 200-206.	2.8	24
6	Kinetic properties of multiquanta Davydov-like solitons in molecular chains. Physical Review E, 1999, 60, 821-825.	2.1	22
7	Qubit lattice coherence induced by electromagnetic pulses in superconducting metamaterials. Scientific Reports, 2016, 6, 29374.	3.3	17
8	The role of solitons in charge and energy transfer in 1D molecular chains. Physica D: Nonlinear Phenomena, 1998, 113, 218-227.	2.8	15
9	Finite-temperature large acoustic polaron dynamics in quasi-one-dimensional molecular crystals. Physical Review E, 2002, 65, 021911.	2.1	14
10	Localization versus delocalization in simple two-state models: variational estimates. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 172, 461-466.	2.1	13
11	Infrared absorption spectra of molecular crystals: Possible evidence for small-polaron formation?. Chemical Physics Letters, 2008, 462, 213-216.	2.6	13
12	Soliton-induced modification of the speed of sound in quasi-one-dimensional molecular crystals. Journal of Physics Condensed Matter, 1998, 10, 1487-1494.	1.8	12
13	Nature of the vibron self-trapped states in hydrogen-bonded macromolecular chains. Physical Review E, 2011, 84, 011920.	2.1	11
14	The vibron dressing in Î±-helicoidal macromolecular chains. Chinese Physics B, 2013, 22, 060501.	1.4	11
15	The Kinetic Coefficient of Electron Transfer Along a One-Dimensional Molecular Chain Achieved by the Mechanism of Supersonic Davydov Solitons. Physica Scripta, 1986, 34, 283-288.	2.5	10
16	Phonon hardening due to the small-polaron effect. Physica B: Condensed Matter, 2005, 355, 417-426.	2.7	10
17	Interchain coupling effects on large acoustic polaron in two parallel molecular chains. Chemical Physics, 2013, 426, 9-15.	1.9	10
18	Frequency dependence of the subharmonic Shapiro steps. Physical Review E, 2011, 83, 056604.	2.1	9

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19	Effects of noise on interference phenomena in the presence of subharmonic Shapiro steps. Physical Review E, 2012, 86, 046209.	2.1	9
20	Size effect of the subharmonic Shapiro steps on the interference phenomena in the Frenkel-Kontorova model with realistic substrate potentials. Journal of Applied Physics, 2013, 114, 174504.	2.5	9
21	Decay and slowing down of the multiquanta Davydov-like solitons in molecular chains. Physical Review E, 2000, 61, 6963-6970.	2.1	8
22	Radiative decay of the one-dimensional large acoustic polaron. Physics Letters, Section A: General, Atomic and Solid State Physics, 2002, 306, 144-152.	2.1	8
23	Boundary between coherent and noncoherent small polaron motion: Influence of the phonon hardening. Physica B: Condensed Matter, 2009, 404, 270-274.	2.7	8
24	Diffusion of Randomly Driven Solitons in Molecular Chains. Europhysics Letters, 1995, 30, 267-272.	2.0	7
25	The influence of the interchain coupling on large acoustic polarons in coupled molecular chains: Three coplanar parallel molecular chains. Chaos, Solitons and Fractals, 2015, 73, 71-79.	5.1	7
26	The influence of supersonic Davydov solitons to the MÃ¶ssbauer effect in one-dimensional molecular crystals atTâ‰ˆ 0. Physica Scripta, 1988, 37, 564-568.	2.5	6
27	Influence of phonon fluctuations on soliton dynamics in the easy-axis Heisenberg model. Physica Scripta, 1991, 43, 528-533.	2.5	6
28	Radiation emission by a polaron in a molecular chain. Journal of Physics Condensed Matter, 1995, 7, 7843-7850.	1.8	6
29	Influence of quantum lattice fluctuations on the stability of large polarons in anisotropic electron-phonon systems. Physical Review B, 2007, 76, .	3.2	6
30	The influence of polaronâ€“phonon interaction on absorption spectra in molecular crystals. Chemical Physics Letters, 2009, 480, 75-81.	2.6	6
31	Charge Transfer in DNA: The Role of Large Polarons. Journal of Physics: Conference Series, 2011, 329, 012015.	0.4	6
32	Self-induced transparency in a flux-qubit chain. Chaos, Solitons and Fractals: X, 2019, 1, 100003.	2.1	6
33	Soliton-phonon interaction in anharmonic quasi-one-dimensional ferromagnetic crystals: Soliton-induced modification of the speed of sound. Physical Review B, 1994, 50, 16418-16423.	3.2	5
34	Dynamics of the spin-boson model in the adiabatic approximation. Journal of Physics Condensed Matter, 1994, 6, 729-740.	1.8	5
35	Interimpurity transfer in condensed media: Breakdown of coherent tunneling and conditions for the creation of localized states. Physical Review B, 1994, 50, 13315-13326.	3.2	5
36	Small-polaron resistivity of the narrow band molecular chain: The influence of phonon hardening. Physica B: Condensed Matter, 2005, 362, 187-192.	2.7	5

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37	On the vibron nature in the system of two parallel macromolecular chains: The influence of interchain coupling. Physica B: Condensed Matter, 2016, 490, 9-15.	2.7	5
38	Damping and modification of the multiquanta Davydov-like solitons in molecular chains. Bioelectrochemistry, 1999, 48, 297-300.	1.0	4
39	Polaron induced modification of the speed of sound in quasi-one-dimensional molecular crystals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 316, 126-134.	2.1	4
40	Finite temperature variational analysis of the tunneling and localization in spinâ€“phonon model. Physics Letters, Section A: General, Atomic and Solid State Physics, 2005, 339, 393-402.	2.1	4
41	Properties of the moving Holstein large polaron in one-dimensional molecular crystals. Journal of Physics Condensed Matter, 2009, 21, 275404.	1.8	4
42	Vibron Self-trapped States in Biological Macromolecules: Comparison of Different Theoretical Approaches. Journal of Physics: Conference Series, 2012, 393, 012033.	0.4	4
43	Polarons, solitons and self-trapping in exciton dynamics. Journal of Luminescence, 1990, 45, 289-291.	3.1	3
44	Finite-temperature two-state small-polaron dynamics: averaged Hamiltonian approach. Journal of Physics Condensed Matter, 1996, 8, 157-167.	1.8	3
45	Modification of phonon spectra due to vibron self-trapping in molecular crystals. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 358, 457-462.	2.1	3
46	Comment on â€œImprovement of the Davydov theory of bioenergy transport in protein molecular systemsâ€• Physical Review E, 2006, 73, 013901.	2.1	3
47	The Contribution of Davydov Solitons to the Value of the Kinetic Coefficient of Electron Transfer along a Oneâ€Đimensional Molecular Chain. Physica Status Solidi (B): Basic Research, 1985, 129, 221-233.	1.5	2
48	Relaxation of kinks in the Ising chain with a transverse field interacting with a three-dimensional phonon field. Journal of Physics Condensed Matter, 1992, 4, 231-240.	1.8	2
49	On the relevance of self-trapping as the mechanism for charge and energy transfer in biological systems. Bioelectrochemistry, 1996, 41, 43-46.	1.0	2
50	On the neutron scattering on large polarons in quasiâ€“one-dimensional molecular crystals. Europhysics Letters, 1998, 41, 285-290.	2.0	2
51	Self-induced transparency of the optical phonons. Chaos, Solitons and Fractals, 2017, 105, 14-20.	5.1	2
52	On the possibility of the creation of bound states of two amide-I quanta in Î±-helix. Bioelectrochemistry, 1996, 41, 93-96.	1.0	1
53	Effects of quantum lattice fluctuations on vibron pairing in two-site systems. Physical Review B, 1996, 54, 2992-2995.	3.2	1
54	Charge transport in the Î±-helix proteins. Journal of Physics: Conference Series, 2010, 248, 012051.	0.4	1

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55	On the possible role of small polarons in the charge and energy transport in the Î±-helix proteins. Physics of Particles and Nuclei, 2010, 41, 1017-1019.	0.7	1
56	Vibron transport in macromolecular chains. , 2014, , .		1
57	Large acoustic polaron states and bifurcation in three coupled parallel molecular chains. Chaos, Solitons and Fractals, 2016, 91, 63-68.	5.1	1
58	Dispersive properties of selfâ€“induced transparency in twoâ€“level media. Chaos, Solitons and Fractals, 2021, 143, 110611.	5.1	1
59	New Approach to the Theory of Hybrid Excitations in Magnetic Dielectrics. Physica Status Solidi (B): Basic Research, 1984, 123, 135-141.	1.5	0
60	The role of supersonic davydov solitons for energy exchange between two joined molecular chains. Physica Status Solidi (B): Basic Research, 1987, 140, 467-476.	1.5	0
61	Soliton Excitations of a Small-Polaron Band. Physical Review Letters, 1989, 63, 2002-2002.	7.8	0
62	Polaron-like features of the domain wall in a classical Ising chain with transverse field. Journal of Physics Condensed Matter, 1993, 5, 6263-6276.	1.8	0
63	Solitons in the system of interacting Frenkel excitons. Journal of Physics Condensed Matter, 2000, 12, 871-884.	1.8	0
64	Dimensional mismatch of the electron-phonon system and large polaron stability. Physical Review B, 2005, 72, .	3.2	0
65	Inapplicability of Small-Polaron Model for the Explanation of Infrared Absorption Spectrum in Acetanilide. Electromagnetic Biology and Medicine, 2009, 28, 182-187.	1.4	0
66	Large polarons in dry DNA: temperature and anharmonic effects. EPJ Web of Conferences, 2012, 29, 00037.	0.3	0
67	Stationary soliton solutions for large adiabatic Holstein polaron in magnetic field in anisotropic solids. European Physical Journal B, 2012, 85, 1.	1.5	0
68	Stationary polarons in discrete molecular chains. International Journal of Quantum Chemistry, 2013, 113, 1522-1533.	2.0	0
69	Publisherâ€™s Note: Frequency dependence of the subharmonic Shapiro steps [Phys. Rev. E83, 056604 (2011)]. Physical Review E, 2013, 87, .	2.1	0
70	Quantum coherence in a qubit chain induced by electromagnetic pulses. , 2016, , .		0
71	Self induced transparency pulses in transmon base quantum metamaterials. , 2021, , .		0
72	Influence of the electron-phonon iinteraction on phonon heat conduction in a molecular nanowire. Science of Sintering, 2006, 38, 125-129.	1.4	0

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73	Adiabatic large polarons in anisotropic molecular crystals. Journal of Research in Physics, 2011, 35, 15-27.	0.2	0
74	Qubit-photon bound states in superconducting metamaterials. Physical Review B, 2022, 105, .	3.2	0