Rudolf Hrach

List of Publications by Year
in descending order

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119	471	933447	996975
papers	citations	10 h-index	15 g-index

120	120	120	220
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Influence of C atom concentration for acetylene production in a CH4/N2 afterglow. Vacuum, 2001, 61, 403-407.	3.5	27
2	A DC probe diagnostics for fast electron temperature measurements in tokamak edge plasmas. European Physical Journal D, 2002, 52, 1107-1114.	0.4	25
3	Energy angular distributions of electrons emitted from MIM systems. Thin Solid Films, 1973, 15, 65-69.	1.8	20
4	The influence of dielectric properties on the emission of a metal-dielectric-metal system: Elastic scattering, optical phonons. European Physical Journal D, 1968, 18, 880-896.	0.4	15
5	Methods of mathematical morphology in spatial analysis of island metal films. International Journal of Electronics, 1990, 69, 49-54.	1.4	13
6	Tunnel probes for measurements of the electron and ion temperature in fusion plasmas. Review of Scientific Instruments, 2004, 75, 4328-4330.	1.3	13
7	Simulation of thin film growth. International Journal of Electronics, 1990, 69, 55-64.	1.4	12
8	Electrical and morphological properties of composite films near the percolation threshold: models of composite structures. Thin Solid Films, 2004, 459, 174-177.	1.8	12
9	Measurements of the Parallel and Perpendicular Ion Temperatures by Means of an Ion-sensitive Segmented Tunnel Probe. Contributions To Plasma Physics, 2004, 44, 683-688.	1.1	11
10	Correlation between morphology and transport properties of composite films: Charge transport in composites. Applied Surface Science, 2006, 252, 5516-5520.	6.1	11
11	Emission of electrons from mim systems: Angular distribution. European Physical Journal D, 1973, 23, 217-224.	0.4	10
12	Emission of electrons from mim systems: Energy distributions. European Physical Journal D, 1973, 23, 225-233.	0.4	10
13	Emission of electrons from mim systems: Discussion of processes in the cathode. European Physical Journal D, 1973, 23, 234-242.	0.4	10
14	The angular distribution of electrons emitted from thin-film MIM structures at various temperatures. Physica Status Solidi A, 1971, 4, 637-642.	1.7	9
15	A contribution to the temperature dependence of the tunnel current of metal-dielectric-metal structures. European Physical Journal D, 1968, 18, 402-418.	0.4	8
16	Electron emission from MIM systems and discontinuous metal films. International Journal of Electronics, 1992, 73, 841-847.	1.4	7
17	Multidimensional fluidâ€“particle modelling technique in low-temperature argon plasma at low pressure. Vacuum, 2007, 82, 220-223.	3.5	7
18	Computer Simulations of Probe Measurements in Argon Plasma: Effects of Finite Dimensions of the Probe. Contributions To Plasma Physics, 2008, 48, 406-411.	1.1	7

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19	Computational study of plasma-surface interaction in plasma-assisted technologies. European Physical Journal D, 2009, 54, 417-423.	1.3	7
20	Three-Dimensional Hybrid Computer Modeling of Langmuir Probes of Finite Dimensions in Medium Pressure Plasmas. IEEE Transactions on Plasma Science, 2010, 38, 2328-2331.	1.3	7
21	The influence of dielectric properties on the emission of a metal-dielectric-metal system: Traps, discussion of the transfer ratio. European Physical Journal D, 1968, 18, 1117-1132.	0.4	6
22	The influence of dielectric properties on the emission of a metal-dielectric-metal system: Energy distributions; summary. European Physical Journal D, 1968, 18, 1591-1601.	0.4	6
23	Self-Consistent Modelling of Plasma Sheath Formation: I. Sheath Dynamics in Electropositive Plasma. European Physical Journal D, 2001, 51, 557-566.	0.4	6
24	Study of thin film growth by means of computer simulation and image analysis. Vacuum, 2002, 67, 229-233.	3.5	6
25	Sheath evolution in electronegative plasma. Computer Physics Communications, 2002, 147, 505-508.	7.5	6
26	Correlation between morphology and transport properties of composite films. Vacuum, 2007, 82, 138-141.	3.5	6
27	Study of initial stages of thin film growth by means of atomistic computer simulation and image analysis: Comparison with experimental data. Vacuum, 2018, 149, 279-283.	3.5	6
28	The influence of dielectric properties on the emission of a metal-dielectric-metal system: Angular distribution of emitted electrons. European Physical Journal D, 1968, 18, 1244-1263.	0.4	5
29	The resonance current in sandwich cathodes with traps. European Physical Journal D, 1970, 20, 307-319.	0.4	5
30	Modelling of electron emission from sandwich cathodes. Vacuum, 1981, 31, 297-301.	3.5	5
31	Study of morphology of composite films. Thin Solid Films, 2000, 373, 203-206.	1.8	5
32	Neural network approach in image analysis of complex systems. Vacuum, 2001, 61, 223-227.	3.5	5
33	Computer study of object distribution in composite films. Materials and Manufacturing Processes, 2002, 17, 97-102.	4.7	5
34	Comparison of collision treatment methods in PIC-MC plasma simulation. European Physical Journal D, 2006, 56, B1086-B1090.	0.4	5
35	Extending PIC Models to Higher Pressuresâ€"Enhanced Model of Collisions. IEEE Transactions on Plasma Science, 2011, 39, 3244-3250.	1.3	5
36	Anomalous emission of electrons from MIM systems. European Physical Journal D, 1975, 25, 193-201.	0.4	4

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37	Computer model of middle stage of thin film growth. European Physical Journal D, 1978, 28, 1382-1394.	0.4	4
38	The simulation of thin film growth. Thin Solid Films, 1981, 85, 285-292.	1.8	4
39	Study of Spatial Distribution of Objects in Composite Films. European Physical Journal D, 2002, 52, 1329-1334.	0.4	4
40	Multilevel morphological analysis of continuous films and surfaces. Thin Solid Films, 2003, 433, 135-139.	1.8	4
41	Multiscale semicontinuous thin film descriptors. Open Physics, 2004, 2, .	1.7	4
42	Self-consistent modelling of plasmaâ€“solid interaction in electronegative plasmas. Thin Solid Films, 2004, 459, 137-140.	1.8	4
43	Image analysis in physicsâ€“sensitivity analysis of morphological methods and their application in thin film physics. Thin Solid Films, 2004, 466, 16-20.	1.8	4
44	Computational study of processes in plasma sheaths surrounding probes of various geometries. European Physical Journal D, 2006, 56, B809-B814.	0.4	4
45	Computational study of plasma-solid interaction in DC glow discharge in argon plasma at medium pressures. Journal of Physics: Conference Series, 2007, 63, 012019.	0.4	4
46	Characterization of objects arrangement in image analysis of physical systems. Vacuum, 2007, 82, 282-285.	3.5	4
47	Study of Sheath Dynamics in Multicomponent Plasma. Contributions To Plasma Physics, 2008, 48, 424-429.	1.1	4
48	Advanced image analysis and its application in thin film physics. Vacuum, 2009, 84, 266-269.	3.5	4
49	Study of plasmaâ€“solid interaction in electronegative gas mixtures at higher pressures. Vacuum, 2009, 84, 94-96.	3.5	4
50	Computational study of sheath structure for plasma-assisted technologies in the presence of electronegative plasma. Vacuum, 2012, 86, 1220-1222.	3.5	4
51	Study of initial stages of thin film growth by means of atomistic computer simulation and image analysis. Vacuum, 2012, 86, 1223-1227.	3.5	4
52	Study of initial stages of thin film growth by means of computer simulation and image analysis: Advanced atomistic modelling. Vacuum, 2013, 90, 121-128.	3.5	4
53	Unevenness of the sandwich cathode and its influence upon distributions of emitted electrons. European Physical Journal D, 1972, 22, 490-505.	0.4	3
54	Computational study of plasmaâ€“solid interaction at low and medium pressures. Vacuum, 2007, 81, 774-776.	3.5	3

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55	Influence of non-axial magnetic field in a 3D3V Particle-In-Cell plasma model. Vacuum, 2007, 82, 244-247.	3.5	3
56	Morphological study of metal/dielectric composite films with various spatial distributions of metal particles. Vacuum, 2009, 84, 174-178.	3.5	3
57	Dynamics of plasmaâ€“surface interactions in chemically active plasmas. Vacuum, 2009, 84, 97-100.	3.5	3
58	Electrical properties of nanocomposites near percolation threshold â€“ dynamics. Thin Solid Films, 2010, 518, 4537-4541.	1.8	3
59	Computational study of sheath structure in chemically active plasmas. EPJ Applied Physics, 2011, 56, 24006.	0.7	3
60	Relationship between electrical and morphological properties of nanocomposites. Thin Solid Films, 2011, 519, 4012-4017.	1.8	3
61	Computational simulation of metal ion propagation from plasma to substrates with uneven surfaces. Vacuum, 2013, 90, 109-113.	3.5	3
62	Computational study of plasma sheath interaction. Physica Scripta, 2014, T161, 014068.	2.5	3
63	The resonance tunnel effect in sandwich structures. European Physical Journal D, 1970, 20, 32-45.	0.4	2
64	The angular distribution of electrons emitted from traps in MIM systems. European Physical Journal D, 1971, 21, 1287-1301.	0.4	2
65	The influence of technological conditions on electrical properties of MIM systems. European Physical Journal D, 1974, 24, 1369-1378.	0.4	2
66	Study of sandwich cathodes with non-uniform dielectric thickness. European Physical Journal D, 1975, 25, 1028-1041.	0.4	2
67	Dielectric relaxation effect in MIM systems. European Physical Journal D, 1978, 28, 919-927.	0.4	2
68	Effect of vacuum conditions on breakdown voltage between electrodes in vacuum. European Physical Journal D, 1980, 30, 518-521.	0.4	2
69	Morphological analysis of discontinuous and semicontinuous metal films. Thin Solid Films, 1998, 317, 39-42.	1.8	2
70	Morphological analysis of continuous metal films. Vacuum, 2000, 57, 259-265.	3.5	2
71	Self-consistent particle modelling of plasma-solid interaction: Influence of substrate geometry. European Physical Journal D, 2004, 54, C671-C676.	0.4	2
72	Study of plasmaâ€”solid interaction in electronegative gas mixtures. European Physical Journal D, 2006, 56, 1437-1444.	0.4	2

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73	The influence of collision effects in DC glow discharge in argon plasma on the sheath formation. European Physical Journal D, 2006, 56, B638-B643.	0.4	2
74	Simultaneous analysis of morphological and transport properties of composite films. Vacuum, 2007, 81, 782-784.	3.5	2
75	Techniques for computational study of plasmaâ€“solid interaction at higher pressures. Vacuum, 2007, 82, 240-243.	3.5	2
76	Metal/dielectric composite films â€” particle shapes and transport properties. Thin Solid Films, 2010, 518, 4590-4592.	1.8	2
77	The Monte Carlo method in physical electronics and thin film physics. Vacuum, 1981, 31, 39-50.	3.5	1
78	Study of thin film growth by means of mathematical morphology methods. International Journal of Electronics, 1992, 73, 973-975.	1.4	1
79	Study of 3D island film morphology. International Journal of Electronics, 1992, 73, 969-971.	1.4	1
80	Models of thin film growth. International Journal of Electronics, 1992, 73, 981-982.	1.4	1
81	Study of thin film growth by means of methods of mathematical morphology. Vacuum, 1992, 43, 705-708.	3.5	1
82	Study of secondary electron emission from plasma polymerized materialsâ€. International Journal of Electronics, 1995, 78, 139-142.	1.4	1
83	Morphological Characteristics of Composite Films. European Physical Journal D, 2001, 51, 593-598.	0.4	1
84	Multi-dimensional codes for particle modelling in low-temperature and high-temperature plasmas. European Physical Journal D, 2004, 54, C654-C658.	0.4	1
85	Computational study of plasmaâ€“solid interaction in mixtures of oxygen with rare gases. Vacuum, 2004, 76, 425-432.	3.5	1
86	Multi-dimensional codes for particle modelling of plasma-solid interaction at higher pressures. European Physical Journal D, 2006, 56, B990-B995.	0.4	1
87	Improving performance of multi-dimensional Particle-In-Cell codes for modelling of medium pressure plasma. Journal of Physics: Conference Series, 2007, 63, 012009.	0.4	1
88	One-dimensional hybrid model of plasma-solid interaction in argon plasma at higher pressures. Journal of Physics: Conference Series, 2007, 63, 012010.	0.4	1
89	Computational study of negative ions influence on plasma sheath formation. Computer Physics Communications, 2007, 177, 137.	7.5	1
90	3D particle simulations of plasma-solid interaction: magnetized plasma and a cylindrical cavity. Journal of Physics: Conference Series, 2008, 100, 062010.	0.4	1

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91	Computational study of plasma composition influence on sheath formation. Vacuum, 2009, 84, 101-103.	3.5	1
92	Computational study of plasma-solid interaction in argon plasma with inclusion of magnetic field. European Physical Journal D, 2009, 54, 313-318.	1.3	1
93	Numerical investigations of sheath structure in presence of magnetic field. Journal of Physics: Conference Series, 2010, 207, 012030.	0.4	1
94	Experimental and computational study of morphological and electrical properties of tin/plasma polymer nanocomposites. Surface and Coatings Technology, 2011, 205, S63-S66.	4.8	1
95	Computer modelling of electronegative plasma sheaths and their mutual interaction. Physica Scripta, 2015, 90, 105603.	2.5	1
96	Hybrid computer modelling in plasma physics. Journal of Physics: Conference Series, 2016, 759, 012066.	0.4	1
97	Morphology of discontinuous metal films with pronounced secondary nucleation. Vacuum, 2019, 162, 168-174.	3.5	1
98	The influence of electric-field penetration upon electron distribution in M-I-M structures. European Physical Journal D, 1970, 20, 1292-1299.	0.4	0
99	The resonance current in sandwich cathodes with traps II. Low voltages. European Physical Journal D, 1971, 21, 324-326.	0.4	0
100	Relaxation processes in MIM systems. International Journal of Electronics, 1992, 73, 829-831.	1.4	0
101	Model of the plasma polymerization process. Vacuum, 1992, 43, 637-639.	3.5	0
102	Dependence of the Radial Profiles of the Plasma Particles Densities on the Afterglow Time in the Flowing Afterglow Plasma. Contributions To Plasma Physics, 1993, 33, 297-305.	1.1	0
103	Plasma formation of thin alumina films. , 1996, , .		0
104	Morphological characteristics of thin metal films. , 1996, , .		0
105	Intelligent reconstruction of grain structures in images of 2D cuts of crystalline materials. Applied Surface Science, 2004, 235, 86-90.	6.1	0
106	Thin film description by wavelet coefficients statistics. European Physical Journal D, 2005, 55, 55-64.	0.4	0
107	Multi-dimensional modelling of plasmaâ€"solid interaction. European Physical Journal D, 2006, 56, 1445-1451.	0.4	0
108	Analysis of multi-dimensional techniques for particle modelling in tokamak edge plasma. European Physical Journal D, 2006, 56, B87-B92.	0.4	0

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109	Growth and morphological properties of thin composite films. Vacuum, 2011, 85, 1096-1097.	3.5	0
110	Modelling of metal/dielectric composite films â€" From sphere to columnar inclusions. Thin Solid Films, 2011, 519, 4022-4024.	1.8	0
111	Low-Temperature Plasma Behavior in the Vicinity of a Cylindrical Probe. IEEE Transactions on Plasma Science, 2011, 39, 2534-2535.	1.3	0
112	Simulation of plasma treatment of uneven substrates in magnetic field. , 2012, , .		0
113	Computational study of mutual influence of multiple plasma sheaths. , 2012, , .		0
114	Reduction of reaction mechanisms in plasma chemistry. , 2012, , .		0
115	Three-dimensional computer simulation of plasmaâ€"solid interaction in the presence of magnetic field. Vacuum, 2012, 86, 1228-1231.	3.5	0
116	Comparison of several algorithms of the electric force calculation in particle plasma models. Journal of Physics: Conference Series, 2014, 516, 012018.	0.4	0
117	Differential cross section in PIC-MCC simulation of plasma-solid interaction. Journal of Physics: Conference Series, 2014, 516, 012017.	0.4	0
118	Computer Simulation of Metal Ions Transport to Uneven Substrates during Ionized Plasma Vapour Deposition. Advances in Materials Science and Engineering, 2017, 2017, 1-7.	1.8	0
119	Study of dynamic processes in multi-component low-temperature plasmas. Vacuum, 2019, 164, 308-311.	3.5	0