

# Kirill I Rybakov

## List of Publications by Year in descending order

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53  
papers

1,731  
citations

516710

16  
h-index

276875

41  
g-index

54  
all docs

54  
docs citations

54  
times ranked

1032  
citing authors



#	ARTICLE	IF	CITATIONS
1	High-temperature microwave processing of materials. Journal Physics D: Applied Physics, 2001, 34, R55-R75.	2.8	434
2	Microwave Sintering: Fundamentals and Modeling. Journal of the American Ceramic Society, 2013, 96, 1003-1020.	3.8	251
3	Microwave heating of conductive powder materials. Journal of Applied Physics, 2006, 99, 023506.	2.5	142
4	Possibility of plastic deformation of an ionic crystal due to the nonthermal influence of a high-frequency electric field. Physical Review B, 1994, 49, 64-68.	3.2	115
5	Microwave ponderomotive forces in solid-state ionic plasmas. Physics of Plasmas, 1998, 5, 1664-1670.	1.9	95
6	Mass transport in ionic crystals induced by the ponderomotive action of a high-frequency electric field. Physical Review B, 1995, 52, 3030-3033.	3.2	94
7	The microwave ponderomotive effect on ceramic sintering. Scripta Materialia, 2012, 66, 1049-1052.	5.2	66
8	On the Mechanism of Microwave Flash Sintering of Ceramics. Materials, 2016, 9, 684.	2.9	63
9	Dynamics of microwave-induced currents in ionic crystals. Physical Review B, 1997, 55, 3559-3567.	3.2	50
10	Flash Microwave Sintering of Transparent $\text{Yb}:(\text{LaY})_{2-x}\text{O}_3$ Ceramics. Journal of the American Ceramic Society, 2015, 98, 3518-3524.	3.8	46
11	Evidence for microwave enhanced mass transport in the annealing of nanoporous alumina membranes. Journal of Materials Science, 2001, 36, 131-136.	3.7	39
12	Preferred orientation of pores in ceramics under heating by a linearly polarized microwave field. Journal of Applied Physics, 2007, 101, 084915.	2.5	32
13	Effect of microwave heating on phase transformations in nanostructured alumina. Journal Physics D: Applied Physics, 2008, 41, 102008.	2.8	28
14	Microwave resonant sintering of powder metals. Scripta Materialia, 2018, 149, 108-111.	5.2	20
15	Temperature profile optimization for microwave sintering of bulk $\text{Ni-Al}_2\text{O}_3$ functionally graded materials. Journal of Materials Processing Technology, 2014, 214, 210-216.	6.3	19
16	Flash Sintering of Oxide Ceramics under Microwave Heating. Technical Physics, 2018, 63, 391-397.	0.7	17
17	Effects of anomalous permittivity on the microwave heating of zinc oxide. Journal of Applied Physics, 1998, 83, 432-437.	2.5	16
18	Fabrication of metal-ceramic functionally graded materials by microwave sintering. Inorganic Materials: Applied Research, 2012, 3, 261-269.	0.5	16



#	ARTICLE	IF	CITATIONS
19	Diffusion Processes in Semiconductor Structures During Microwave Annealing. Radiophysics and Quantum Electronics, 2003, 46, 749-755.	0.5	15
20	Ultra-rapid microwave sintering employing thermal instability and resonant absorption. Journal of Materials Research, 2019, 34, 2620-2634.	2.6	15
21	Ultra-rapid microwave sintering of pure and $Y_{2}O_{3}$ -doped $MgAl_{2}O_{4}$ . Journal of the American Ceramic Society, 2019, 102, 559-568.	3.8	14
22	Role of convective heat removal and electromagnetic field structure in the microwave heating of materials. Journal of Materials Science, 2007, 42, 2097-2104.	3.7	13
23	Stability of microwave heating of ceramic materials in a cylindrical cavity. Journal Physics D: Applied Physics, 2007, 40, 6809-6817.	2.8	12
24	Effects of microwave heating in nanostructured ceramic materials. Powder Metallurgy and Metal Ceramics, 2010, 49, 31-41.	0.8	11
25	Absorption of microwaves in metal-ceramic powder materials. Radiophysics and Quantum Electronics, 2010, 53, 354-362.	0.5	11
26	Microwave sintering of nanostructured ceramic materials. Nanotechnologies in Russia, 2011, 6, 647-661.	0.7	10
27	Effective Microwave Dielectric Properties of Ensembles of Spherical Metal Particles. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 1479-1487.	4.6	9
28	Terahertz Dielectric Properties of Polycrystalline $MgAl_{2}O_{4}$ Spinel Obtained by Microwave Sintering and Hot Pressing. Journal of Infrared, Millimeter, and Terahertz Waves, 2019, 40, 447-455.	2.2	9
29	Enhanced Mass and Charge Transfer in Solids Exposed to Microwave Fields. , 2006, , 472-481.		9
30	Densification of powder materials in non-uniform temperature fields. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1996, 73, 295-307.	0.6	7
31	Millimeter-Wave Gyrotron System for Research and Application Development. Part 2. High-Temperature Processes in Polycrystalline Dielectric Materials. Radiophysics and Quantum Electronics, 2019, 61, 787-796.	0.5	6
32	A Non-Thermal Vacancy-Drift Mechanism of Plastic Deformation of Grains in Ceramics During Microwave Sintering. Materials Research Society Symposia Proceedings, 1994, 347, 661.	0.1	5
33	Microwave heating of electrically conductive materials. Radiophysics and Quantum Electronics, 2005, 48, 888-895.	0.5	5
34	Effective High-Frequency Permeability of Compacted Metal Powders. Radiophysics and Quantum Electronics, 2018, 60, 797-807.	0.5	5
35	Implementation of rapid microwave sintering using a 24 GHz gyrotron system. Review of Scientific Instruments, 2022, 93, .	1.3	5
36	Effect of specific absorbed power on microwave sintering of 3YSZ ceramics. IOP Conference Series: Materials Science and Engineering, 2017, 218, 012001.	0.6	4



#	ARTICLE	IF	CITATIONS
37	Microwave Joining of ZrO <sub>2</sub> and Al <sub>2</sub> O <sub>3</sub> Ceramics Via Nanostructured Interlayers. , 2003, , 413-426.		4
38	Possibility of Microwave-Controlled Surface Modification. Materials Research Society Symposia Proceedings, 1996, 430, 435.	0.1	3
39	Mass Transport and DC Electromotive Force Induced in Ionic Crystals by High-Frequency Electric Field. Materials Research Society Symposia Proceedings, 1994, 369, 263.	0.1	2
40	Microstructure of the microwave fast-sintered MgAl <sub>2</sub> O <sub>4</sub> ceramics. EPJ Web of Conferences, 2017, 149, 02021.	0.3	2
41	Apparent viscosity reduction during microwave sintering of amorphous silica. Ceramics International, 2018, 44, 1797-1801.	4.8	2
42	Ultra-rapid microwave sintering. Journal of Physics: Conference Series, 2018, 1115, 042005.	0.4	2
43	Observation of an Electromagnetically Driven Temperature Wave in Porous Zinc Oxide During Microwave Heating. Materials Research Society Symposia Proceedings, 1996, 430, 507.	0.1	1
44	High temperature processing of materials using millimeter-wave radiation. , 0, , .		1
45	Sintering of Oxide Ceramics under Rapid Microwave Heating. , 0, , 233-242.		1
46	Microwave Heating of Metal Power Clusters. Technical Physics, 2018, 63, 45-50.	0.7	1
47	Application of Millimeter-Wave Radiation for Manufacture of Ceramic Items Using Additive Methods. Radiophysics and Quantum Electronics, 2020, 63, 522-529.	0.5	1
48	Study Of Microwave-Driven Currents In Ionic Crystals. Materials Research Society Symposia Proceedings, 1996, 430, 459.	0.1	0
49	Stability of pores in solid membrane films. Journal of Materials Science Letters, 2000, 19, 1851-1854.	0.5	0
50	Effective magnetic permeability of compacted metal powders at microwave frequencies. EPJ Web of Conferences, 2017, 149, 02008.	0.3	0
51	Microwave Heating of Ensembles of Spherical Metal Particles Surrounded by Insulating Layers. , 0, , 223-231.		0
52	Enhanced Mass and Charge Transfer in Solids Exposed to Microwave Fields. , 0, , 472-481.		0
53	Absorption of Millimeter Waves in Composite Metal-Ceramic Materials. , 0, , 591-597.		0