Michael I Ojovan

List of Publications by Year
in descending order

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103 papers	2,126 citations	236925 25 h-index	265206 42 g-index
116 all docs	116 docs citations	116 times ranked	1340 citing authors

#	Article	IF	Citations
1	Glassy Wasteforms for Nuclear Waste Immobilization. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 837-851.	2.2	225
2	Ceramic Mineral Waste-Forms for Nuclear Waste Immobilization. Materials, 2019, 12, 2638.	2.9	113
3	Viscosity and Glass Transition in Amorphous Oxides. Advances in Condensed Matter Physics, 2008, 2008, 1-23.	1.1	106
4	The ion exchange phase in corrosion of nuclear waste glasses. Journal of Nuclear Materials, 2006, 358, 57-68.	2.7	91
5	Thermodynamic parameters of bonds in glassy materials from viscosityâ€“temperature relationships. Journal of Physics Condensed Matter, 2007, 19, 415107.	1.8	74
6	Configurons: Thermodynamic Parameters and Symmetry Changes at Glass Transition. Entropy, 2008, 10, 334-364.	2.2	74
7	Long-term field and laboratory leaching tests of cemented radioactive wastes. Journal of Hazardous Materials, 2011, 187, 296-302.	12.4	73
8	Connectivity and glass transition in disordered oxide systems. Journal of Non-Crystalline Solids, 2010, 356, 2534-2540.	3.1	56
9	Topologically disordered systems at the glass transition. Journal of Physics Condensed Matter, 2006, 18, 11507-11520.	1.8	54
10	Ordering and structural changes at the glassâ€“liquid transition. Journal of Non-Crystalline Solids, 2013, 382, 79-86.	3.1	54
11	Corrosion of alkaliâ€“borosilicate waste glass K-26 in non-saturated conditions. Journal of Nuclear Materials, 2005, 340, 12-24.	2.7	52
12	Crystallisation of a simulated borosilicate high-level waste glass produced on a full-scale vitrification line. Journal of Non-Crystalline Solids, 2011, 357, 2989-3001.	3.1	51
13	Viscosity of network liquids within Doremus approach. Journal of Applied Physics, 2004, 95, 3803-3810.	2.5	49
14	Nano-scale quasi-melting of alkali-borosilicate glasses under electron irradiation. Journal of Nuclear Materials, 2010, 396, 264-271.	2.7	43
15	Updating irradiated graphite disposal: Project â€˜GRAPAâ€™ and the international decommissioning network. Journal of Environmental Radioactivity, 2017, 171, 34-40.	1.7	43
16	Alkali ion exchange in Î³-irradiated glasses. Journal of Nuclear Materials, 2004, 335, 425-432.	2.7	42
17	Revealing Structural Changes at Glass Transition via Radial Distribution Functions. Journal of Physical Chemistry B, 2020, 124, 3186-3194.	2.6	41
18	Topological characteristics of bonds in SiO2 and GeO2 oxide systems upon a glass-liquid transition. Journal of Experimental and Theoretical Physics, 2006, 103, 819-829.	0.9	39

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19	An overview of research activities on cementitious materials for radioactive waste management. Materials Research Society Symposia Proceedings, 2012, 1475, 253.	0.1	39
20	On relaxation nature of glass transition in amorphous materials. Physica B: Condensed Matter, 2017, 523, 96-113.	2.7	37
21	Modelling aqueous corrosion of nuclear waste phosphate glass. Journal of Nuclear Materials, 2017, 484, 357-366.	2.7	33
22	Relaxation aspects of the liquidâ€“glass transition. Physics-Uspekhi, 2019, 62, 111-130.	2.2	30
23	On Selection of Matrix (Wasteform) Material for Higher Activity Nuclear Waste Immobilization (Review). Russian Journal of Inorganic Chemistry, 2019, 64, 1611-1624.	1.3	30
24	An Assessment of Initial Leaching Characteristics of Alkali-Borosilicate Glasses for Nuclear Waste Immobilization. Materials, 2019, 12, 1462.	2.9	29
25	Glass Crystalline Materials as Advanced Nuclear Wasteforms. Sustainability, 2021, 13, 4117.	3.2	29
26	Radioactive waste management and contaminated site clean-up. , 2013, , .		28
27	The Influence of Radiation on Confinement Properties of Nuclear Waste Glasses. Science and Technology of Nuclear Installations, 2020, 2020, 1-14.	0.8	24
28	MoO3 incorporation in magnesium aluminosilicate glasses. Journal of Nuclear Materials, 2015, 458, 335-342.	2.7	23
29	On Structural Rearrangements Near the Glass Transition Temperature in Amorphous Silica. Materials, 2021, 14, 5235.	2.9	22
30	Glass transition criterion and plastic deformation of glass. Physica B: Condensed Matter, 2020, 582, 411914.	2.7	19
31	Glass Composite Materials for Nuclear and Hazardous Waste Immobilisation. Materials Research Society Symposia Proceedings, 2008, 1107, 1.	0.1	18
32	The Behaviours of Cementitious Materials in Long Term Storage and Disposal: An Overview of Results of the IAEA Coordinated Research Project. Materials Research Society Symposia Proceedings, 2009, 1193, 85.	0.1	18
33	Mass spectrometric evidencing on modified random network microstructure and medium range order in silicate glasses. Journal of Non-Crystalline Solids, 2016, 434, 71-78.	3.1	18
34	The Modified Random Network (MRN) Model within the Configuron Percolation Theory (CPT) of Glass Transition. Ceramics, 2021, 4, 121-134.	2.6	17
35	Toward Sustainable Cementitious Radioactive Waste Forms: Immobilization of Problematic Operational Wastes. Sustainability, 2021, 13, 11992.	3.2	17
36	Problems and perspectives of borehole disposal of radioactive waste. Progress in Nuclear Energy, 2021, 139, 103867.	2.9	16

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37	Radiation-induced microcrystal shape change as a mechanism of wasteform degradation. Journal of Nuclear Materials, 2018, 501, 162-171.	2.7	15
38	On Alteration Rate Renewal Stage of Nuclear Waste Glass Corrosion. MRS Advances, 2020, 5, 111-120.	0.9	15
39	<title>Rydberg matter: properties and decay</title>. , 2006, 6181, 36.		14
40	The synthesis of graphiteâ€“glass composites intended for the immobilisation of waste irradiated graphite. Journal of Nuclear Materials, 2011, 413, 47-52.	2.7	14
41	Building and Breaking Bonds by Homogenous Nucleation in Glass-Forming Melts Leading to Transitions in Three Liquid States. Materials, 2021, 14, 2287.	2.9	12
42	On Structural Rearrangements during the Vitrification of Molten Copper. Materials, 2022, 15, 1313.	2.9	12
43	Acoustic emission on melting/solidification of natural granite simulating very deep waste disposal. Nuclear Engineering and Design, 2012, 248, 329-339.	1.7	11
44	Thermodynamic Parameters of Bonds in Glassy Materials from Shear Viscosity Coefficient Data. International Journal of Applied Glass Science, 2014, 5, 22-25.	2.0	10
45	Undercooled phase behind the glass phase with superheated medium-range order above glass transition temperature. Physica B: Condensed Matter, 2021, 602, 412542.	2.7	10
46	Dewetting temperatures of prefrozen and grafted layers in solid ultrathin films viewed as melt-memory effects. Physica B: Condensed Matter, 2021, 611, 412796.	2.7	9
47	Recent Trends in the Evaluation of Cementitious Material in Radioactive Waste Disposal. , 2016, , 401-448.		9
48	Prediction of Second Melting Temperatures Already Observed in Pure Elements by Molecular Dynamics Simulations. Materials, 2021, 14, 6509.	2.9	9
49	On Viscous Flow in Glass-Forming Organic Liquids. Molecules, 2020, 25, 4029.	3.8	8
50	Treatment of Irradiated Graphite to Meet Acceptance Criteria for Waste Disposal: Problem and Solutions. Materials Research Society Symposia Proceedings, 2014, 1665, 3-12.	0.1	7
51	Effect of Gamma Irradiation on Structural Features and Dissolution of Nuclear Waste Naâ€“Alâ€“P Glasses in Water. Sustainability, 2020, 12, 4137.	3.2	7
52	Leaching Tests and Modelling of Cementitious Wasteforms Corrosion. Innovations in Corrosion and Materials Science, 2015, 4, 90-95.	0.2	7
53	Secondary Phases on the Surface of Real Vitrified Radioactive Waste Disposed in a Loamy Soil. Materials Research Society Symposia Proceedings, 2003, 807, 712.	0.1	6
54	39-years Performance of Cemented Radioactive Waste in a Mound Type Repository. Materials Research Society Symposia Proceedings, 2006, 932, 1.	0.1	6

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55	On radiation-induced fluidization (quasi-melting) of silicate glasses. Materials Research Society Symposia Proceedings, 2009, 1193, 393.	0.1	6
56	Rydberg Matter Clusters: Theory of Interaction and Sorption Properties. Journal of Cluster Science, 2012, 23, 35-46.	3.3	6
57	Vitreous Materials for Nuclear Waste Immobilisation and IAEA Support Activities. MRS Advances, 2016, 1, 4201-4206.	0.9	6
58	Immobilisation of Radioactive Wastes in Glass. , 2019, , 319-368.		6
59	Surface Alteration of Borosilicate and Phosphate Nuclear Waste Glasses by Hydration and Irradiation. Challenges, 2020, 11, 14.	1.7	6
60	Multiple Melting Temperatures in Glass-Forming Melts. Sustainability, 2022, 14, 2351.	3.2	6
61	Cold Crucible Vitrification of NPP Operational Waste. Materials Research Society Symposia Proceedings, 2002, 757, II5.13.1.	0.1	5
62	Crystallisation Within Simulated High Level Waste Borosilicate Glass. Materials Research Society Symposia Proceedings, 2004, 824, 252.	0.1	5
63	Revealing ordering and structural changes at glass transition. Materials Research Society Symposia Proceedings, 2013, 1520, 1.	0.1	5
64	Evolution of cations speciation during the initial leaching stage of alkali-borosilicate-glasses. MRS Advances, 2020, 5, 185-193.	0.9	5
65	Challenges in the Long-Term Behaviour of Highly Radioactive Materials. Sustainability, 2022, 14, 2445.	3.2	5
66	Thermodynamic Simulation and Experimental Study of Irradiated Reactor Graphite Waste Processing with REE Oxides. Materials Research Society Symposia Proceedings, 2008, 1107, 1.	0.1	4
67	Heuristic Paradoxes of S.P. Kapitza Theoretical Demography. Evropejskij IssledovatelÊ[1], 2015, 92, 237-248.	0.1	4
68	Processing of Irradiated Graphite: The Outcomes of an IAEA Coordinated Research Project. MRS Advances, 2016, 1, 4117-4122.	0.9	4
69	Thermodynamic modeling and experimental tests of irradiated graphite molten salt decontamination. Materials Research Society Symposia Proceedings, 2013, 1518, 103-108.	0.1	3
70	About activation energy of viscous flow of glasses and melts. Materials Research Society Symposia Proceedings, 2015, 1757, 7.	0.1	3
71	Advances in conditioning of low- and intermediate-level nuclear waste. MRS Advances, 2018, 3, 983-990.	0.9	3
72	Immobilisation of Radioactive Waste in Cement. , 2019, , 271-303.		3

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73	Performance of Wasteform Materials. , 2019, , 433-461.		3
74	Advanced Vitreous Wasteforms for Radioactive Salt Cake Waste Immobilisation. MRS Advances, 2020, 5, 121-129.	0.9	3
75	IAEA-Assisted Treatment of Liquid Radioactive Waste at the Saakadze Site in Georgia. Processes, 2021, 9, 1679.	2.8	3
76	Comments about a recent publication entitled â€œImproving glass forming ability of off-eutectic metallic glass formers by manipulating primary crystallization reactionsâ€• Scripta Materialia, 2021, 205, 114039.	5.2	3
77	The viscosity of Bi2O3â€“B2O3â€“SiO2 glasses and melts. Glass Technology: European Journal of Glass Science and Technology Part A, 2019, 60, 105-110.	0.2	3
78	About U-shaped Glass Corrosion Rate/pH Curves for Vitreous Nuclear Wasteforms. Innovations in Corrosion and Materials Science, 2017, 7, 30-37.	0.2	3
79	Simulation of Self-Irradiation of High-Sodium Content Nuclear Waste Glasses. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	2
80	MoO3 incorporation in alkaline earth aluminosilicate glasses. Materials Research Society Symposia Proceedings, 2015, 1744, 67-72.	0.1	2
81	About U(t) form of pH-dependence of glass corrosion rates at zero surface to volume ratio. Materials Research Society Symposia Proceedings, 2015, 1744, 153-161.	0.1	2
82	Destruction of Micro-crystal Containing Wasteforms by Charge-induced Crystal Shape Change on Self-irradiation. MRS Advances, 2017, 2, 621-626.	0.9	2
83	Introduction to the nuclear industry sustainability. , 2021, , 3-47.		2
84	Sustainability of cementitious structures, systems, and components (SSCâ€™s): Long-term environmental stressors. , 2021, , 181-232.		2
85	Cementitious Materials for Radioactive Waste Management Within IAEA Coordinated Research Project. , 2011, , .		1
86	Processing and Disposal of Radioactive Waste: Selection of Technical Solutions. Materials Research Society Symposia Proceedings, 2012, 1518, 203-209.	0.1	1
87	Nuclear Waste Processing Schemes. , 2019, , 167-190.		1
88	Ceramics and Novel Technologies. , 2019, , 369-395.		1
89	Innovative and conventional cementitious systems in nuclear industryâ€”Safety aspect. , 2021, , 49-87.		1
90	Techniques to test cementitious systems through their life cycles. , 2021, , 407-430.		1

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91	Long-term irradiation effects in cementitious systems. , 2021, , 161-180.		1
92	Correlation between chemical composition and 90Sr concentrations in groundwater of the Chornobyl NPP industrial site. Journal of Environmental Radioactivity, 2021, 240, 106756.	1.7	1
93	Kinetics of alkali ion exchange of irradiated glasses. Materials Research Society Symposia Proceedings, 2003, 792, 233.	0.1	0
94	Frequency Characteristics of Acoustic Emission Signals from Cementitious Wasteforms with Encapsulated Al. Materials Research Society Symposia Proceedings, 2006, 985, 1.	0.1	0
95	Non-Power Use of Nuclear Energy. , 2019, , 71-79.		0
96	Long-Lived Waste Radionuclides. , 2019, , 155-166.		0
97	Power Utilisation of Nuclear Energy. , 2019, , 57-70.		0
98	Considerations in construction of nuclear cements: Materials, technologies, and management systems. , 2021, , 271-295.		0
99	Terms and glossary relevant to nuclear cementitious systems. , 2021, , 629-646.		0
100	Age management and maintenance of cementitious SSCâ€™s during operation phase. , 2021, , 385-405.		0
101	Behavior of cementitious SSCâ€™s in mitigating accidents. , 2021, , 233-267.		0
102	Life cycle of nuclear cementitious structures, systems, and components. , 2021, , 89-121.		0
103	Hydration process: Kinetics and thermodynamics. , 2021, , 125-160.		0