Rudy J M Konings

List of Publications by Year
in descending order

135 papers	3,794 citations	136740 32 h-index	161609 54 g-index
136 all docs	136 docs citations	136 times ranked	2337 citing authors

#	Article	IF	Citations
1	Using the Quasi-chemical formalism beyond the phase Diagram: Density and viscosity models for molten salt fuel systems. Journal of Nuclear Materials, 2022, 561, 153536.	1.3	5
2	Examination of the short-range structure of molten salts: ThF₄, UF₄, and related alkali actinide fluoride systems. Physical Chemistry Chemical Physics, 2021, 23, 11091-11103.	1.3	10
3	Cesium and iodine release from fluoride-based molten salt reactor fuel. Physical Chemistry Chemical Physics, 2021, 23, 9512-9523.	1.3	8
4	Self-irradiation-induced disorder in (U238Pu)O2. MRS Advances, 2021, 6, 213.	0.5	3
5	New insights and coupled modelling of the structural and thermodynamic properties of the LiF-UF4 system. Journal of Molecular Liquids, 2021, 331, 115820.	2.3	10
6	Experimental and Computational Exploration of the NaFâ€“ThF4 Fuel System: Structure and Thermochemistry. Journal of Physical Chemistry B, 2021, 125, 8558-8571.	1.2	3
7	Thermodynamic Description of the ACl-ThCl4 (A = Li, Na, K) Systems. Thermo, 2021, 1, 122-133.	0.6	4
8	Thermodynamic Assessment of the AFâ€“CrF3 (A = Li, Na, K) and CrF2â€“CrF3 Systems. Thermo, 2021, 1, 205-219.	0.6	2
9	Thermodynamic Assessment of the NaF-KF-UF4 System. Thermo, 2021, 1, 232-250.	0.6	0
10	Thermal Properties and Behaviour of Am-Bearing Fuel in European Space Radioisotope Power Systems. Thermo, 2021, 1, 297-331.	0.6	3
11	SUPERFACT: A Model Fuel for Studying the Evolution of the Microstructure of Spent Nuclear Fuel during Storage/Disposal. Materials, 2021, 14, 6538.	1.3	2
12	Melting behaviour of uranium-americium mixed oxides under different atmospheres. Journal of Chemical Thermodynamics, 2020, 140, 105896.	1.0	10
13	A new approach for coupled modelling of the structural and thermo-physical properties of molten salts. Case of a polymeric liquid LiF-BeF2. Journal of Molecular Liquids, 2020, 299, 112165.	2.3	39
14	Uraniumâ€“plutonium partitioning in aerosols produced from (U,Pu)O2 mixed oxide by laser heating. Journal of Aerosol Science, 2020, 148, 105588.	1.8	4
15	Thermodynamic assessment of the KF-ThF4, LiF-KF-ThF4 and NaF-KF-ThF4 systems. Journal of Chemical Thermodynamics, 2020, 145, 106069.	1.0	7
16	Radiation effects in alpha-doped UO2. Nuclear Instruments & Methods in Physics Research B, 2020, 468, 54-59.	0.6	8
17	Molten Salt Reactor Fuel and Coolant. , 2020, , 609-644.		5
18	Halides of the Actinides and Fission Products Relevant for Molten Salt Reactors. , 2020, , 256-283.		7

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19	The effect of lattice disorder on the low-temperature heat capacity of (U1â^'yThy)O2 and 238Pu-doped UO2. Scientific Reports, 2019, 9, 15082.	1.6	7
20	Isobaric Heat Capacity of Solid and Liquid Thorium Tetrafluoride. Journal of Chemical & Engineering Data, 2019, 64, 3945-3950.	1.0	5
21	Extreme multi-valence states in mixed actinide oxides. Communications Chemistry, 2019, 2, .	2.0	32
22	Vaporization behaviour of a PuF3-containing fuel mixture for the Molten Salt Fast Reactor. Journal of Nuclear Materials, 2019, 527, 151780.	1.3	4
23	Thermophysical properties of U, Zr-oxides as prototypic corium materials. Journal of Nuclear Materials, 2019, 520, 165-177.	1.3	12
24	European Radioisotope Thermoelectric Generators (RTGs) and Radioisotope Heater Units (RHUs) for Space Science and Exploration. Space Science Reviews, 2019, 215, 1.	3.7	44
25	In situ high-temperature EXAFS measurements on radioactive and air-sensitive molten salt materials. Journal of Synchrotron Radiation, 2019, 26, 124-136.	1.0	22
26	Synthesis of plutonium trifluoride by hydro-fluorination and novel thermodynamic data for the PuF3-LiF system. Journal of Nuclear Materials, 2018, 503, 171-177.	1.3	12
27	High temperature measurements and condensed matter analysis of the thermo-physical properties of ThO2. Scientific Reports, 2018, 8, 5038.	1.6	12
28	Thermodynamics of soluble fission products cesium and iodine in the Molten Salt Reactor. Journal of Nuclear Materials, 2018, 501, 238-252.	1.3	20
29	Thermodynamic assessment of the LiF-NiF 2 , NaF-NiF 2 and KF-NiF 2 systems. Journal of Chemical Thermodynamics, 2018, 121, 17-26.	1.0	14
30	The low-temperature heat capacity of (U1-yAm)O 2â^' for yÂ= 0.08 and 0.20. Journal of Nuclear Materials, 2018, 507, 126-134.	1.3	4
31	Optimization of Uranium-Doped Americium Oxide Synthesis for Space Application. Inorganic Chemistry, 2018, 57, 4317-4327.	1.9	34
32	Thermodynamic assessment of the niobium-fluorine system by coupling density functional theory and CALPHAD approach. Journal of Fluorine Chemistry, 2018, 208, 55-64.	0.9	8
33	Thermal diffusivity of UO2 up to the melting point. Journal of Nuclear Materials, 2018, 499, 504-511.	1.3	14
34	Vaporization behaviour of the Molten Salt Fast Reactor fuel: TheÂLiF-ThF4-UF4 system. Journal of Nuclear Materials, 2018, 508, 319-328.	1.3	9
35	Thermodynamic properties of Pb3U11O36. Journal of Nuclear Materials, 2018, 510, 38-42.	1.3	0
36	A new numerical method and modified apparatus for the simultaneous evaluation of thermo-physical properties above 1500 K: A case study on isostatically pressed graphite. Thermochimica Acta, 2017, 652, 39-52.	1.2	22

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37	The behaviour of parent and daughter nuclides in aerosols released in radiological dispersion events: a study of a SrTiO3 source. Journal of Raman Spectroscopy, 2017, 48, 549-559.	1.2	6
38	Thermodynamic assessment of the Na-O and Na-U-O systems: Margin to the safe operation of SFRs. Journal of Chemical Thermodynamics, 2017, 114, 93-115.	1.0	11
39	Thermodynamic determination and assessment of the CsF-ThF 4 system. Journal of Chemical Thermodynamics, 2017, 114, 71-82.	1.0	8
40	Synthesis of UF 4 and ThF 4 by HF gas fluorination and re-determination of the UF 4 melting point. Journal of Fluorine Chemistry, 2017, 200, 33-40.	0.9	32
41	The thermodynamic properties of gaseous UO 2 (OH) 2. Journal of Nuclear Materials, 2017, 496, 163-165.	1.3	2
42	Properties of the high burnup structure in nuclear light water reactor fuel. Radiochimica Acta, 2017, 105, 893-906.	0.5	29
43	Synthesis and investigation of neptunium zirconium phosphate, a member of the NZP family: crystal structure, thermal behaviour and MÃ¶ssbauer spectroscopy studies. Dalton Transactions, 2017, 46, 11626-11635.	1.6	15
44	High temperature heat capacity of (U, Am)O2Â±x. Journal of Nuclear Materials, 2017, 494, 95-102.	1.3	14
45	Measurement and interpretation of the thermo-physical properties of UO2 at high temperatures: The viral effect of oxygen defects. Acta Materialia, 2017, 139, 138-154.	3.8	38
46	The high-temperature heat capacity of the (Th,U)O 2 and (U,Pu)O 2 solid solutions. Journal of Nuclear Materials, 2017, 484, 1-6.	1.3	13
47	Evidence for Lattice Strain and Non-ideal Behavior in the (La1â^'xEux)PO4 Solid Solution from X-ray Diffraction and Vibrational Spectroscopy. Frontiers in Earth Science, 2016, 4, .	0.8	18
48	Theoretical study of actinide monocarbides (ThC, UC, PuC, and AmC). Journal of Chemical Physics, 2016, 145, 244310.	1.2	15
49	MÃ¶ssbauer spectroscopy, magnetization, magnetic susceptibility, and low temperature heat capacity ofÎ±-Na₂NpO₄. Journal of Physics Condensed Matter, 2016, 28, 086002.	0.7	5
50	Thermal properties of PbUO4 and Pb3UO6. Journal of Nuclear Materials, 2016, 479, 189-194.	1.3	5
51	Thermodynamic assessment of the neptuniumâ€“oxygen system: Mass spectrometric studies and thermodynamic modelling. Journal of Chemical Thermodynamics, 2016, 103, 257-275.	1.0	8
52	Investigation of sulphur isotope variation due to different processes applied during uranium ore concentrate production. Journal of Radioanalytical and Nuclear Chemistry, 2016, 309, 1113-1121.	0.7	8
53	Characterization of aerosols from RDD surrogate compounds produced by fast thermal transients. Journal of Nuclear Science and Technology, 2016, 53, 391-401.	0.7	3
54	TEM study of alpha-damaged plutonium and americium dioxides. Journal of Materials Research, 2015, 30, 1544-1554.	1.2	20

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55	Raman and Xâ€ray Studies of Uraniumâ€“Lanthanumâ€Mixed Oxides Before and After Air Oxidation. Journal of the American Ceramic Society, 2015, 98, 2278-2285.	1.9	54
56	The low-temperature heat capacity of the (Th,Pu)O2 solid solution. Journal of Physics and Chemistry of Solids, 2015, 86, 194-206.	1.9	13
57	Quantum Chemical Calculations and Experimental Investigations of Molecular Actinide Oxides. Chemical Reviews, 2015, 115, 1725-1759.	23.0	103
58	Thermodynamic investigation of Na2U2O7 using Knudsen effusion mass spectrometry and high temperature X-ray diffraction. Journal of Chemical Thermodynamics, 2015, 90, 199-208.	1.0	15
59	Determination of oxygen stoichiometry of oxide fuel during high temperature vapour pressure measurement. Journal of Nuclear Materials, 2015, 462, 182-190.	1.3	3
60	Thermodynamic assessment of the LiFâ€“ThF4â€“PuF3â€“UF4 system. Journal of Nuclear Materials, 2015, 462, 43-53.	1.3	34
61	Predicting material release during a nuclear reactor accident. Nature Materials, 2015, 14, 247-252.	13.3	94
62	Determination of the thermodynamic activities of LiF and ThF₄in the Li_xTh_{1â^'x}F_{4â^'3x}liquid solution by Knudsen effusion mass spectrometry. Physical Chemistry Chemical Physics, 2015, 17, 30110-30118.	1.3	16
63	Heat capacity of Bi2UO6. Journal of Nuclear Materials, 2015, 465, 653-656.	1.3	7
64	Low temperature heat capacity of Î±-Na2NpO4. Thermochimica Acta, 2015, 617, 129-135.	1.2	9
65	Low temperature heat capacity of Na 4 UO 5 and Na 4 NpO 5. Journal of Chemical Thermodynamics, 2015, 91, 245-255.	1.0	12
66	High temperature phase transition of mixed (PuO 2 + ThO 2) investigated by laser melting. Journal of Chemical Thermodynamics, 2015, 81, 245-252.	1.0	22
67	Synthesis and crystal structure investigations of ternary oxides in the Naâ€“Puâ€“O system. Journal of Nuclear Materials, 2015, 457, 54-62.	1.3	16
68	Theoretical Study of Thorium and Uranium Tetracarbide Molecules. European Journal of Inorganic Chemistry, 2014, 2014, 1062-1071.	1.0	11
69	Recent advances in the study of the UO2â€“PuO2 phase diagram at high temperatures. Journal of Nuclear Materials, 2014, 448, 330-339.	1.3	83
70	Theoretical study of Pu and Am tetracarbide molecules. International Journal of Quantum Chemistry, 2014, 114, 587-597.	1.0	9
71	RADES an experimental set-up for the characterization of aerosol release from nuclear and radioactive materials. Journal of Aerosol Science, 2014, 70, 36-49.	1.8	20
72	The high temperature heat capacity of the (Th,Pu)O2 system. Journal of Chemical Thermodynamics, 2014, 68, 122-127.	1.0	20

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73	Thermal diffusion of helium in 238Pu-doped UO2. Journal of Nuclear Materials, 2014, 445, 117-127.	1.3	30
74	Thermodynamic assessment of the LiFâ€“NaFâ€“BeF2â€“ThF4â€“UF4 system. Journal of Nuclear Materials, 2014, 449, 111-121.	1.3	33
75	The Thermodynamic Properties of the f-Elements and their Compounds. Part 2. The Lanthanide and Actinide Oxides. Journal of Physical and Chemical Reference Data, 2014, 43, .	1.9	241
76	A ²³Na Magic Angle Spinning Nuclear Magnetic Resonance, XANES, and High-Temperature X-ray Diffraction Study of NaUO₃, Na₄UO₅, and Na₂U₂O₇. Inorganic Chemistry, 2014, 53, 375-382.	1.9	28
77	Evolution of spent nuclear fuel in dry storage conditions for millennia and beyond. Journal of Nuclear Materials, 2014, 451, 198-206.	1.3	60
78	A mass spectrometric investigation of the vaporisation behaviour in the (U+Pu+O) system. Journal of Chemical Thermodynamics, 2014, 71, 212-220.	1.0	7
79	Heat capacity, thermal conductivity and thermal diffusivity of uraniumâ€“americium mixed oxides. Journal of Alloys and Compounds, 2014, 614, 144-150.	2.8	20
80	Thermodynamic Calculations of Molten-Salt Reactor Fuel Systems. , 2013, , 49-78.		4
81	The heat capacity of NpO2 at high temperatures: The effect of oxygen Frenkel pair formation. Journal of Physics and Chemistry of Solids, 2013, 74, 653-655.	1.9	28
82	A comprehensive study of the heat capacity of CsF from T= 5 K to T= 1400 K. Journal of Chemical Thermodynamics, 2013, 57, 92-100.	1.0	15
83	Mass spectrometric study of the vaporization behaviour of Î±-Na2NpO4: Thermodynamic investigation of the enthalpy of formation. Journal of Chemical Thermodynamics, 2013, 60, 132-141.	1.0	9
84	Thermodynamic investigation of the LiFâ€“ThF4 system. Journal of Chemical Thermodynamics, 2013, 58, 110-116.	1.0	46
85	Knudsen Effusion Mass Spectrometry of Nuclear Materials: Applications and Developments. ECS Transactions, 2013, 46, 23-38.	0.3	7
86	Recent Results of Microstructural Characterization of Irradiated Light Water Reactor Fuels using Scanning and Transmission Electron Microscopy. Jom, 2012, 64, 1390-1395.	0.9	40
87	Molten Salt Reactor Fuel and Coolant. , 2012, , 359-389.		28
88	The Melting Behaviour of Oxide Nuclear Fuels: Effects of the Oxygen Potential Studied by Laser Heating. Procedia Chemistry, 2012, 7, 505-512.	0.7	21
89	Theoretical Study of the Structure and Bonding in ThC₂ and UC₂. Journal of Physical Chemistry A, 2012, 116, 747-755.	1.1	28
90	Theoretical study of the Pu and Am dicarbide molecules. Structural Chemistry, 2012, 23, 1281-1289.	1.0	12

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91	Low Temperature Heat Capacity and Magnetic Properties of UF₃. Inorganic Chemistry, 2011, 50, 10102-10106.	1.9	6
92	The melting behaviour of plutonium dioxide: A laser-heating study. Journal of Nuclear Materials, 2011, 416, 166-172.	1.3	32
93	Thermal diffusivity and conductivity of thoriumâ€“plutonium mixed oxides. Journal of Nuclear Materials, 2011, 416, 135-141.	1.3	87
94	Thermodynamic modelling of advanced oxide and carbide nuclear fuels: Description of the Uâ€“Puâ€“Oâ€“C systems. Journal of Nuclear Materials, 2011, 419, 145-167.	1.3	186
95	On the melting behaviour of uranium/plutonium mixed dioxides with high-Pu content: A laser heating study. Journal of Nuclear Materials, 2011, 419, 186-193.	1.3	36
96	Synthesis and crystal structure characterisation of sodium neptunate compounds. Journal of Nuclear Materials, 2011, 413, 114-121.	1.3	24
97	A thermodynamic study of the Puâ€“Amâ€“O system. Journal of Nuclear Materials, 2011, 414, 408-421.	1.3	30
98	(Solid+gas) equilibrium studies for neptunium dioxide. Journal of Chemical Thermodynamics, 2011, 43, 492-498.	1.0	11
99	The high temperature heat capacity of NpO2. Journal of Chemical Thermodynamics, 2011, 43, 651-655.	1.0	24
100	Thermodynamic assessment of the LiFâ€“NaFâ€“ThF4â€“UF4 system. Journal of Nuclear Materials, 2010, 405, 186-198.	1.3	54
101	Impact of auto-irradiation on the thermophysical properties of oxide nuclear reactor fuels. Journal of Nuclear Materials, 2010, 397, 8-18.	1.3	58
102	A DSC study of the NaNO3â€“KNO3 system using an innovative encapsulation technique. Thermochimica Acta, 2010, 509, 62-66.	1.2	72
103	Reassessing the melting temperature of PuO2. Materials Today, 2010, 13, 52-55.	8.3	44
104	Density functional theory, molecular dynamics, and differential scanning calorimetry study of the RbFâ€“CsF phase diagram. Journal of Chemical Physics, 2009, 130, 134716.	1.2	13
105	Thermodynamic evaluation of the (LiF+NaF+BeF2+PuF3) system: An actinide burner fuel. Journal of Chemical Thermodynamics, 2009, 41, 1086-1095.	1.0	23
106	Thermodynamic properties and phase diagrams of fluoride salts for nuclear applications. Journal of Fluorine Chemistry, 2009, 130, 22-29.	0.9	106
107	Thermodynamic Properties of Actinides and Actinide Compounds. , 2008, , 2113-2224.		38
108	Excess properties of the (Ln2â^'2xCaxThx)(PO4)2 (Ln=La, Ce) solid solutions. Journal of Chemical Thermodynamics, 2008, 40, 1305-1308.	1.0	24

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109	Volatile fission product behaviour during thermal annealing of irradiated UO2 fuel oxidised up to U3O8. Journal of Nuclear Materials, 2008, 372, 215-225.	1.3	42
110	Molecular structure and thermodynamic properties of the gaseous ThC2 and ThC4 species. Journal of Nuclear Materials, 2008, 372, 391-393.	1.3	15
111	Actinide burner fuel: Potential compositions based on the thermodynamic evaluation of MFâ€“PuF3 (M=Li, Na, K, Rb, Cs) and LaF3â€“PuF3 systems. Journal of Nuclear Materials, 2008, 377, 449-457.	1.3	39
112	A re-evaluation of the heat capacity of cerium zirconate (Ce2Zr2O7). Journal of Physics and Chemistry of Solids, 2008, 69, 70-75.	1.9	17
113	Thermodynamic evaluation of the MFâ€“LaF3 (M=Li, Na, K, Rb, Cs) systems. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2008, 32, 121-128.	0.7	31
114	High-temperature investigations of the rare earth NZP phosphates R1/3Zr2(PO4)3 (R=La, Nd, Eu, Lu) by drop calorimetry. Journal of Alloys and Compounds, 2007, 439, 376-379.	2.8	13
115	The low-temperature heat capacity of (Pu0.1La0.9)PO4. Solid State Communications, 2007, 144, 74-77.	0.9	25
116	The chemistry of the phosphates of barium and tetravalent cations in the 1:1 stoichiometry. Journal of Solid State Chemistry, 2007, 180, 2346-2355.	1.4	32
117	The heat capacity of BaUO4. Journal of Chemical Thermodynamics, 2007, 39, 104-107.	1.0	14
118	High-temperature calorimetry of (La1â^'xLnx)PO4 solid solutions. Journal of Chemical Thermodynamics, 2007, 39, 236-239.	1.0	43
119	Modeling and Calculation of the LiFâ^'NaFâ^'MF3(M = La, Ce, Pu) Phase Diagrams. Chemistry of Materials, 2006, 18, 510-517.	3.2	20
120	Thermodynamic assessment of the LiFâ€“BeF2â€“ThF4â€“UF4 system. Journal of Nuclear Materials, 2006, 357, 48-57.	1.3	30
121	The high-temperature heat capacity of LnPO4 (Ln=La, Ce, Gd) by drop calorimetry. Journal of Chemical Thermodynamics, 2006, 38, 825-829.	1.0	41
122	A miscibility gap in LiFâ€“BeF2 and LiFâ€“BeF2â€“ThF4. Journal of Nuclear Materials, 2005, 344, 94-99.	1.3	19
123	High temperature heat capacity of Nd2Zr2O7 and La2Zr2O7 pyrochlores. Journal of Chemical Thermodynamics, 2005, 37, 1098-1103.	1.0	66
124	The heat capacity and entropy of actinide(IV) compounds. Journal of Chemical Thermodynamics, 2004, 36, 121-126.	1.0	16
125	The low-temperature heat capacity of some lanthanide zirconates. Journal of Chemical Thermodynamics, 2004, 36, 609-618.	1.0	48
126	Zirconate pyrochlore as a transmutation target: thermal behaviour and radiation resistance against fission fragment impact. Journal of Nuclear Materials, 2003, 319, 59-64.	1.3	96

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127	Transmutation of Actinides. Journal of the American Ceramic Society, 2002, 85, 694-696.	1.9	52
128	Estimation of the standard entropies of some Am(III) and Cm(III) compounds. Journal of Nuclear Materials, 2001, 295, 57-63.	1.3	31
129	Critical evaluation of the thermal properties of Th02 and Th1â^'yUy02 and a survey of the literature data on Th1â^'yPuy02. Journal of Nuclear Materials, 1997, 250, 1-12.	1.3	154
130	Melting behaviour of oxide systems for heterogeneous transmutation of actinides. III. The system Amâ€"Mgâ€"O. Journal of Nuclear Materials, 1997, 250, 88-95.	1.3	12
131	The composition of niobium pentafluoride vapor. Structural Chemistry, 1994, 5, 9-13.	1.0	10
132	The release of fission products from degraded UO2 fuel: Thermochemical aspects. Journal of Nuclear Materials, 1993, 201, 57-69.	1.3	38
133	Thermochemistry of selected fission product compounds. Journal of Nuclear Materials, 1993, 201, 81-91.	1.3	18
134	Thermochemical data for reactor materials and fission products: The ECN database. Journal of Phase Equilibria and Diffusion, 1993, 14, 457-464.	0.3	38
135	Chemical interactions in water-cooled nuclear fuel: A thermochemical approach. Journal of Nuclear Materials, 1988, 152, 301-309.	1.3	112