Rudy J M Konings

List of Publications by Year
in descending order

135 papers	3,794 citations	136950 32 h-index	161849 54 g-index
136 all docs	136 docs citations	136 times ranked	2337 citing authors

#	Article	IF	Citations
1	The Thermodynamic Properties of the <i>f</i>-Elements and their Compounds. Part 2. The Lanthanide and Actinide Oxides. Journal of Physical and Chemical Reference Data, 2014, 43, .	4.2	241
2	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.	2.7	186
3	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.	2.7	154
4	Chemical interactions in water-cooled nuclear fuel: A thermochemical approach. Journal of Nuclear Materials, 1988, 152, 301-309.	2.7	112
5	Thermodynamic properties and phase diagrams of fluoride salts for nuclear applications. Journal of Fluorine Chemistry, 2009, 130, 22-29.	1.7	106
6	Quantum Chemical Calculations and Experimental Investigations of Molecular Actinide Oxides. Chemical Reviews, 2015, 115, 1725-1759.	47.7	103
7	Zirconate pyrochlore as a transmutation target: thermal behaviour and radiation resistance against fission fragment impact. Journal of Nuclear Materials, 2003, 319, 59-64.	2.7	96
8	Predicting material release during a nuclear reactor accident. Nature Materials, 2015, 14, 247-252.	27.5	94
9	Thermal diffusivity and conductivity of thoriumâ€"plutonium mixed oxides. Journal of Nuclear Materials, 2011, 416, 135-141.	2.7	87
10	Recent advances in the study of the UO2â€"PuO2 phase diagram at high temperatures. Journal of Nuclear Materials, 2014, 448, 330-339.	2.7	83
11	A DSC study of the NaNO3â€"KNO3 system using an innovative encapsulation technique. Thermochimica Acta, 2010, 509, 62-66.	2.7	72
12	High temperature heat capacity of Nd2Zr2O7 and La2Zr2O7 pyrochlores. Journal of Chemical Thermodynamics, 2005, 37, 1098-1103.	2.0	66
13	Evolution of spent nuclear fuel in dry storage conditions for millennia and beyond. Journal of Nuclear Materials, 2014, 451, 198-206.	2.7	60
14	Impact of auto-irradiation on the thermophysical properties of oxide nuclear reactor fuels. Journal of Nuclear Materials, 2010, 397, 8-18.	2.7	58
15	Thermodynamic assessment of the LiFâ€"NaFâ€"ThF4â€"UF4 system. Journal of Nuclear Materials, 2010, 405, 186-198.	2.7	54
16	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.	3.8	54
17	Transmutation of Actinides. Journal of the American Ceramic Society, 2002, 85, 694-696.	3.8	52
18	The low-temperature heat capacity of some lanthanide zirconates. Journal of Chemical Thermodynamics, 2004, 36, 609-618.	2.0	48

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19	Thermodynamic investigation of the LiFâ€“ThF4 system. Journal of Chemical Thermodynamics, 2013, 58, 110-116.	2.0	46
20	Reassessing the melting temperature of PuO2. Materials Today, 2010, 13, 52-55.	14.2	44
21	European Radioisotope Thermoelectric Generators (RTGs) and Radioisotope Heater Units (RHUs) for Space Science and Exploration. Space Science Reviews, 2019, 215, 1.	8.1	44
22	High-temperature calorimetry of (La1â^’xLnx)PO4 solid solutions. Journal of Chemical Thermodynamics, 2007, 39, 236-239.	2.0	43
23	Volatile fission product behaviour during thermal annealing of irradiated UO2 fuel oxidised up to U3O8. Journal of Nuclear Materials, 2008, 372, 215-225.	2.7	42
24	The high-temperature heat capacity of LnPO4 (Ln=La, Ce, Gd) by drop calorimetry. Journal of Chemical Thermodynamics, 2006, 38, 825-829.	2.0	41
25	Recent Results of Microstructural Characterization of Irradiated Light Water Reactor Fuels using Scanning and Transmission Electron Microscopy. Jom, 2012, 64, 1390-1395.	1.9	40
26	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.	2.7	39
27	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.	4.9	39
28	The release of fission products from degraded UO2 fuel: Thermochemical aspects. Journal of Nuclear Materials, 1993, 201, 57-69.	2.7	38
29	Thermochemical data for reactor materials and fission products: The ECN database. Journal of Phase Equilibria and Diffusion, 1993, 14, 457-464.	0.3	38
30	Thermodynamic Properties of Actinides and Actinide Compounds. , 2008, , 2113-2224.		38
31	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.	7.9	38
32	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.	2.7	36
33	Thermodynamic assessment of the LiFâ€“ThF4â€“PuF3â€“UF4 system. Journal of Nuclear Materials, 2015, 462, 43-53.	2.7	34
34	Optimization of Uranium-Doped Americium Oxide Synthesis for Space Application. Inorganic Chemistry, 2018, 57, 4317-4327.	4.0	34
35	Thermodynamic assessment of the LiFâ€“NaFâ€“BeF2â€“ThF4â€“UF4 system. Journal of Nuclear Materials, 2014, 449, 111-121.	2.7	33
36	The chemistry of the phosphates of barium and tetravalent cations in the 1:1 stoichiometry. Journal of Solid State Chemistry, 2007, 180, 2346-2355.	2.9	32

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37	The melting behaviour of plutonium dioxide: A laser-heating study. Journal of Nuclear Materials, 2011, 416, 166-172.	2.7	32
38	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.	1.7	32
39	Extreme multi-valence states in mixed actinide oxides. Communications Chemistry, 2019, 2, .	4.5	32
40	Estimation of the standard entropies of some Am(III) and Cm(III) compounds. Journal of Nuclear Materials, 2001, 295, 57-63.	2.7	31
41	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.	1.6	31
42	Thermodynamic assessment of the LiFâ€“BeF2â€“ThF4â€“UF4 system. Journal of Nuclear Materials, 2006, 357, 48-57.	2.7	30
43	A thermodynamic study of the Puâ€“Amâ€“O system. Journal of Nuclear Materials, 2011, 414, 408-421.	2.7	30
44	Thermal diffusion of helium in 238Pu-doped UO2. Journal of Nuclear Materials, 2014, 445, 117-127.	2.7	30
45	Properties of the high burnup structure in nuclear light water reactor fuel. Radiochimica Acta, 2017, 105, 893-906.	1.2	29
46	Molten Salt Reactor Fuel and Coolant. , 2012, , 359-389.		28
47	Theoretical Study of the Structure and Bonding in ThC₂ and UC₂. Journal of Physical Chemistry A, 2012, 116, 747-755.	2.5	28
48	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.	4.0	28
49	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.	4.0	28
50	The low-temperature heat capacity of (Pu0.1La0.9)PO4. Solid State Communications, 2007, 144, 74-77.	1.9	25
51	Excess properties of the (Ln2â^'2xCaxThx)(PO4)2 (Ln=La, Ce) solid solutions. Journal of Chemical Thermodynamics, 2008, 40, 1305-1308.	2.0	24
52	Synthesis and crystal structure characterisation of sodium neptunate compounds. Journal of Nuclear Materials, 2011, 413, 114-121.	2.7	24
53	The high temperature heat capacity of NpO2. Journal of Chemical Thermodynamics, 2011, 43, 651-655.	2.0	24
54	Thermodynamic evaluation of the (LiF+NaF+BeF2+PuF3) system: An actinide burner fuel. Journal of Chemical Thermodynamics, 2009, 41, 1086-1095.	2.0	23

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55	High temperature phase transition of mixed (PuO 2 + ThO 2) investigated by laser melting. Journal of Chemical Thermodynamics, 2015, 81, 245-252.	2.0	22
56	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.	2.7	22
57	<i>In situ</i> high-temperature EXAFS measurements on radioactive and air-sensitive molten salt materials. Journal of Synchrotron Radiation, 2019, 26, 124-136.	2.4	22
58	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
59	Modeling and Calculation of the LiFâˆ'NaFâˆ'MF3(M = La, Ce, Pu) Phase Diagrams. Chemistry of Materials, 2006, 18, 510-517.	6.7	20
60	RADES an experimental set-up for the characterization of aerosol release from nuclear and radioactive materials. Journal of Aerosol Science, 2014, 70, 36-49.	3.8	20
61	The high temperature heat capacity of the (Th,Pu)O2 system. Journal of Chemical Thermodynamics, 2014, 68, 122-127.	2.0	20
62	Heat capacity, thermal conductivity and thermal diffusivity of uraniumâ€"americium mixed oxides. Journal of Alloys and Compounds, 2014, 614, 144-150.	5.5	20
63	TEM study of alpha-damaged plutonium and americium dioxides. Journal of Materials Research, 2015, 30, 1544-1554.	2.6	20
64	Thermodynamics of soluble fission products cesium and iodine in the Molten Salt Reactor. Journal of Nuclear Materials, 2018, 501, 238-252.	2.7	20
65	A miscibility gap in LiFâ€"BeF2 and LiFâ€"BeF2â€"ThF4. Journal of Nuclear Materials, 2005, 344, 94-99.	2.7	19
66	Thermochemistry of selected fission product compounds. Journal of Nuclear Materials, 1993, 201, 81-91.	2.7	18
67	Evidence for Lattice Strain and Non-ideal Behavior in the (La1âˆ'xEux)PO4 Solid Solution from X-ray Diffraction and Vibrational Spectroscopy. Frontiers in Earth Science, 2016, 4, .	1.8	18
68	A re-evaluation of the heat capacity of cerium zirconate (Ce2Zr2O7). Journal of Physics and Chemistry of Solids, 2008, 69, 70-75.	4.0	17
69	The heat capacity and entropy of actinide(IV) compounds. Journal of Chemical Thermodynamics, 2004, 36, 121-126.	2.0	16
70	Determination of the thermodynamic activities of LiF and ThF₄in the Li_xTh_{1âˆ'x}F_{4âˆ'3x}liquid solution by Knudsen effusion mass spectrometry. Physical Chemistry Chemical Physics, 2015, 17, 30110-30118.	2.8	16
71	Synthesis and crystal structure investigations of ternary oxides in the Naâ€"Puâ€"O system. Journal of Nuclear Materials, 2015, 457, 54-62.	2.7	16
72	Molecular structure and thermodynamic properties of the gaseous ThC2 and ThC4 species. Journal of Nuclear Materials, 2008, 372, 391-393.	2.7	15

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73	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.	2.0	15
74	Thermodynamic investigation of Na2U2O7 using Knudsen effusion mass spectrometry and high temperature X-ray diffraction. Journal of Chemical Thermodynamics, 2015, 90, 199-208.	2.0	15
75	Theoretical study of actinide monocarbides (ThC, UC, PuC, and AmC). Journal of Chemical Physics, 2016, 145, 244310.	3.0	15
76	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.	3.3	15
77	The heat capacity of BaUO4. Journal of Chemical Thermodynamics, 2007, 39, 104-107.	2.0	14
78	High temperature heat capacity of (U, Am)O2Â±x. Journal of Nuclear Materials, 2017, 494, 95-102.	2.7	14
79	Thermodynamic assessment of the LiF-NiF 2 , NaF-NiF 2 and KF-NiF 2 systems. Journal of Chemical Thermodynamics, 2018, 121, 17-26.	2.0	14
80	Thermal diffusivity of UO2 up to the melting point. Journal of Nuclear Materials, 2018, 499, 504-511.	2.7	14
81	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.	5.5	13
82	Density functional theory, molecular dynamics, and differential scanning calorimetry study of the RbFâ€“CsF phase diagram. Journal of Chemical Physics, 2009, 130, 134716.	3.0	13
83	The low-temperature heat capacity of the (Th,Pu)O2 solid solution. Journal of Physics and Chemistry of Solids, 2015, 86, 194-206.	4.0	13
84	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.	2.7	13
85	Melting behaviour of oxide systems for heterogeneous transmutation of actinides. III. The system Amâ€“Mgâ€“O. Journal of Nuclear Materials, 1997, 250, 88-95.	2.7	12
86	Theoretical study of the Pu and Am dicarbide molecules. Structural Chemistry, 2012, 23, 1281-1289.	2.0	12
87	Low temperature heat capacity of Na 4 UO 5 and Na 4 NpO 5. Journal of Chemical Thermodynamics, 2015, 91, 245-255.	2.0	12
88	Synthesis of plutonium trifluoride by hydro-fluorination and novel thermodynamic data for the PuF3-LiF system. Journal of Nuclear Materials, 2018, 503, 171-177.	2.7	12
89	High temperature measurements and condensed matter analysis of the thermo-physical properties of ThO2. Scientific Reports, 2018, 8, 5038.	3.3	12
90	Thermophysical properties of U, Zr-oxides as prototypic corium materials. Journal of Nuclear Materials, 2019, 520, 165-177.	2.7	12

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91	(Solid+gas) equilibrium studies for neptunium dioxide. Journal of Chemical Thermodynamics, 2011, 43, 492-498.	2.0	11
92	Theoretical Study of Thorium and Uranium Tetracarbide Molecules. European Journal of Inorganic Chemistry, 2014, 2014, 1062-1071.	2.0	11
93	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.	2.0	11
94	The composition of niobium pentafluoride vapor. Structural Chemistry, 1994, 5, 9-13.	2.0	10
95	Melting behaviour of uranium-americium mixed oxides under different atmospheres. Journal of Chemical Thermodynamics, 2020, 140, 105896.	2.0	10
96	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.	2.8	10
97	New insights and coupled modelling of the structural and thermodynamic properties of the LiF-UF4 system. Journal of Molecular Liquids, 2021, 331, 115820.	4.9	10
98	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.	2.0	9
99	Theoretical study of Pu and Am tetracarbide molecules. International Journal of Quantum Chemistry, 2014, 114, 587-597.	2.0	9
100	Low temperature heat capacity of Î±-Na2NpO4. Thermochimica Acta, 2015, 617, 129-135.	2.7	9
101	Vaporization behaviour of the Molten Salt Fast Reactor fuel: TheÂLiF-ThF4-UF4 system. Journal of Nuclear Materials, 2018, 508, 319-328.	2.7	9
102	Thermodynamic assessment of the neptuniumâ€"oxygen system: Mass spectrometric studies and thermodynamic modelling. Journal of Chemical Thermodynamics, 2016, 103, 257-275.	2.0	8
103	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.	1.5	8
104	Thermodynamic determination and assessment of the CsF-ThF 4 system. Journal of Chemical Thermodynamics, 2017, 114, 71-82.	2.0	8
105	Thermodynamic assessment of the niobium-fluorine system by coupling density functional theory and CALPHAD approach. Journal of Fluorine Chemistry, 2018, 208, 55-64.	1.7	8
106	Radiation effects in alpha-doped UO2. Nuclear Instruments & Methods in Physics Research B, 2020, 468, 54-59.	1.4	8
107	Cesium and iodine release from fluoride-based molten salt reactor fuel. Physical Chemistry Chemical Physics, 2021, 23, 9512-9523.	2.8	8
108	Knudsen Effusion Mass Spectrometry of Nuclear Materials: Applications and Developments. ECS Transactions, 2013, 46, 23-38.	0.5	7

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109	A mass spectrometric investigation of the vaporisation behaviour in the (U+Pu+O) system. Journal of Chemical Thermodynamics, 2014, 71, 212-220.	2.0	7
110	Heat capacity of Bi2UO6. Journal of Nuclear Materials, 2015, 465, 653-656.	2.7	7
111	The effect of lattice disorder on the low-temperature heat capacity of (U1âˆ’yThy)O2 and 238Pu-doped UO2. Scientific Reports, 2019, 9, 15082.	3.3	7
112	Thermodynamic assessment of the KF-ThF4, LiF-KF-ThF4 and NaF-KF-ThF4 systems. Journal of Chemical Thermodynamics, 2020, 145, 106069.	2.0	7
113	Halides of the Actinides and Fission Products Relevant for Molten Salt Reactors. , 2020, , 256-283.		7
114	Low Temperature Heat Capacity and Magnetic Properties of UF₃. Inorganic Chemistry, 2011, 50, 10102-10106.	4.0	6
115	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.	2.5	6
116	MÃ¶ssbauer spectroscopy, magnetization, magnetic susceptibility, and low temperature heat capacity of<i>Î±</i>-Na₂NpO₄. Journal of Physics Condensed Matter, 2016, 28, 086002.	1.8	5
117	Thermal properties of PbUO4 and Pb3UO6. Journal of Nuclear Materials, 2016, 479, 189-194.	2.7	5
118	Isobaric Heat Capacity of Solid and Liquid Thorium Tetrafluoride. Journal of Chemical & Engineering Data, 2019, 64, 3945-3950.	1.9	5
119	Molten Salt Reactor Fuel and Coolant. , 2020, , 609-644.		5
120	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.	2.7	5
121	Thermodynamic Calculations of Molten-Salt Reactor Fuel Systems. , 2013, , 49-78.		4
122	The low-temperature heat capacity of (U1-yAm)O 2âˆ’ for yÂ= 0.08 and 0.20. Journal of Nuclear Materials, 2018, 507, 126-134.	2.7	4
123	Vaporization behaviour of a PuF3-containing fuel mixture for the Molten Salt Fast Reactor. Journal of Nuclear Materials, 2019, 527, 151780.	2.7	4
124	Uraniumâ€“plutonium partitioning in aerosols produced from (U,Pu)O2 mixed oxide by laser heating. Journal of Aerosol Science, 2020, 148, 105588.	3.8	4
125	Thermodynamic Description of the ACl-ThCl4 (A = Li, Na, K) Systems. Thermo, 2021, 1, 122-133.	1.3	4
126	Determination of oxygen stoichiometry of oxide fuel during high temperature vapour pressure measurement. Journal of Nuclear Materials, 2015, 462, 182-190.	2.7	3

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127	Characterization of aerosols from RDD surrogate compounds produced by fast thermal transients. Journal of Nuclear Science and Technology, 2016, 53, 391-401.	1.3	3
128	Self-irradiation-induced disorder in (U238Pu)O2. MRS Advances, 2021, 6, 213.	0.9	3
129	Experimental and Computational Exploration of the NaFâ€“ThF4 Fuel System: Structure and Thermochemistry. Journal of Physical Chemistry B, 2021, 125, 8558-8571.	2.6	3
130	Thermal Properties and Behaviour of Am-Bearing Fuel in European Space Radioisotope Power Systems. Thermo, 2021, 1, 297-331.	1.3	3
131	The thermodynamic properties of gaseous UO 2 (OH) 2. Journal of Nuclear Materials, 2017, 496, 163-165.	2.7	2
132	Thermodynamic Assessment of the AFâ€“CrF3 (A = Li, Na, K) and CrF2â€“CrF3 Systems. Thermo, 2021, 1, 205-219.	1.3	2
133	SUPERFACT: A Model Fuel for Studying the Evolution of the Microstructure of Spent Nuclear Fuel during Storage/Disposal. Materials, 2021, 14, 6538.	2.9	2
134	Thermodynamic properties of Pb3U11O36. Journal of Nuclear Materials, 2018, 510, 38-42.	2.7	0
135	Thermodynamic Assessment of the NaF-KF-UF4 System. Thermo, 2021, 1, 232-250.	1.3	0