Stephan Klemme

List of Publications by Year in descending order

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#	Article	IF	CITATIONS
1	Rare-earth modified amorphous carbon films: Effects of erbium and gadolinium on the structural evolution and mechanical properties. Diamond and Related Materials, 2022, 123, 108898.	3.9	1
2	Chlorine isotope behavior in subduction zone settings revealed by olivine-hosted melt inclusions from the Central America Volcanic Arc. Earth and Planetary Science Letters, 2022, 581, 117414.	4.4	2
3	Synthesis of Large Amounts of Volatile Element-Bearing Silicate Glasses Using a Two-Stage Melting Process. ACS Earth and Space Chemistry, 2022, 6, 1108-1114.	2.7	2
4	Empirical and experimental constraints on Fe-Ti oxide-melt titanium isotope fractionation factors. Geochimica Et Cosmochimica Acta, 2022, 326, 253-272.	3.9	13
5	Experimental constraints on the long-lived radiogenic isotope evolution of the Moon. Geochimica Et Cosmochimica Acta, 2022, 326, 119-148.	3.9	2
6	Origin of carbonatites—liquid immiscibility caught in the act. Nature Communications, 2022, 13, .	12.8	13
7	Sulfides and hollows formed on Mercury's surface by reactions with reducing S-rich gases. Earth and Planetary Science Letters, 2022, 593, 117647.	4.4	8
8	The stability of antigorite in subduction zones revisited: the effect of F on antigorite stability and its breakdown reactions at high pressures and high temperatures, with implications for the geochemical cycles of halogens. Contributions To Mineralogy and Petrology, 2022, 177, .	3.1	3
9	Recycling process and proto-kimberlite melt metasomatism in the lithosphere-asthenosphere boundary beneath the Amazonian Craton recorded by garnet xenocrysts and mantle xenoliths from the Carolina kimberlite. Geoscience Frontiers, 2022, 13, 101429.	8.4	6
10	Constraining the presence of amphibole and mica in metasomatized mantle sources through halogen partitioning experiments. Lithos, 2021, 380-381, 105859.	1.4	7
11	Whole-rock trace element analyses via LA-ICP-MS in glasses produced by sodium borate flux fusion. Brazilian Journal of Geology, 2021, 51, .	0.7	1
12	Experimental Investigation of Apollo 16 "Rusty Rock―Alteration by a Lunar Fumarolic Gas. Journal of Geophysical Research E: Planets, 2021, 126, e2020JE006609.	3.6	8
13	How do secondary iron enrichments form within basaltic eucrites? An experimental approach. Meteoritics and Planetary Science, 2021, 56, 911.	1.6	2
14	A hydrothermal apparatus for x-ray absorption spectroscopy of hydrothermal fluids at DESY. Review of Scientific Instruments, 2021, 92, 063903.	1.3	3
15	Mid-infrared reflectance spectroscopy of synthetic glass analogs for Mercury surface studies. Icarus, 2021, 361, 114363.	2.5	9
16	Clarifying source assemblages and metasomatic agents for basaltic rocks in eastern Australia using olivine phenocryst compositions. Lithos, 2021, 390-391, 106122.	1.4	5
17	Experimental investigation of Ru isotope fractionation between metal, silicate and sulfide melts. Chemical Geology, 2021, 580, 120384.	3.3	0
18	Partial melting and subduction-related metasomatism recorded by geochemical and isotope (He-Ne-Ar-Sr-Nd) compositions of spinel lherzolite xenoliths from Coyhaique, Chilean Patagonia. Gondwana Research, 2021, 98, 257-276.	6.0	2

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19	Titanium-rich metasomatism in the lithospheric mantle beneath the Arkhangelsk Diamond Province, Russia: insights from ilmenite-bearing xenoliths and HP–HT reaction experiments. Contributions To Mineralogy and Petrology, 2021, 176, 1.	3.1	6
20	An experimental assessment of the potential of sulfide saturation of the source regions of eucrites and angrites: Implications for asteroidal models of core formation, late accretion and volatile element depletions. Geochimica Et Cosmochimica Acta, 2020, 269, 39-62.	3.9	14
21	Trace element partitioning between sulfide-, metal- and silicate melts at highly reduced conditions: Insights into the distribution of volatile elements during core formation in reduced bodies. Icarus, 2020, 335, 113408.	2.5	14
22	Metal-silicate partitioning systematics of siderophile elements at reducing conditions: A new experimental database. Icarus, 2020, 335, 113391.	2.5	22
23	Trace element mapping of high-pressure, high-temperature experimental samples with laser ablation ICP time-of-flight mass spectrometry – Illuminating melt-rock reactions in the lithospheric mantle. Lithos, 2020, 352-353, 105282.	1.4	6
24	Decomposition of single-source precursors under high-temperature high-pressure to access osmium–platinum refractory alloys. Journal of Alloys and Compounds, 2020, 813, 152121.	5.5	7
25	An experimental assessment of the chalcophile behavior of F, Cl, Br and I: Implications for the fate of halogens during planetary accretion and the formation of magmatic ore deposits. Geochimica Et Cosmochimica Acta, 2020, 273, 275-290.	3.9	10
26	Addressing matrix effects for 193 nm excimer LA-ICP-MS analyses of Fe-rich sulfides and a new predictive model. Journal of Analytical Atomic Spectrometry, 2020, 35, 498-509.	3.0	10
27	Multi-Stage Introduction of Precious and Critical Metals in Pyrite: A Case Study from the Konos Hill and Pagoni Rachi Porphyry/Epithermal Prospects, NE Greece. Minerals (Basel, Switzerland), 2020, 10, 784.	2.0	8
28	The Fate of Sulfur and Chalcophile Elements During Crystallization of the Lunar Magma Ocean. Journal of Geophysical Research E: Planets, 2020, 125, e2019JE006328.	3.6	7
29	Ferric-ferrous iron ratios of experimental majoritic garnet and clinopyroxene as a function of oxygen fugacity. American Mineralogist, 2020, 105, 1866-1874.	1.9	4
30	An Improved Electron Microprobe Method for the Analysis of Halogens in Natural Silicate Glasses. Microscopy and Microanalysis, 2020, 26, 857-866.	0.4	11
31	Origin and redox conditions of the RosĄ̃;rio-6 alnĄ̃¶ite of southern Brazil: Implications for the state of the mantle during Gondwana breakup. Lithos, 2020, 376-377, 105751.	1.4	2
32	Trace element partitioning between pyrochlore, microlite, fersmite and silicate melts. Geochemical Transactions, 2020, 21, 9.	0.7	4
33	The brecciated texture of polymict eucrites: Petrographic investigations of unequilibrated meteorites from the Antarctic Yamato collection. Meteoritics and Planetary Science, 2020, 55, 558-574.	1.6	5
34	A possible high-temperature origin of the Moon and its geochemical consequences. Earth and Planetary Science Letters, 2020, 538, 116222.	4.4	21
35	Highly reduced accretion of the Earth by large impactors? Evidence from elemental partitioning between sulfide liquids and silicate melts at highly reduced conditions. Geochimica Et Cosmochimica Acta, 2020, 286, 248-268.	3.9	5
36	Experimental constraints on metal transport in fumarolic gases. Journal of Volcanology and Geothermal Research, 2020, 400, 106929.	2.1	12

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37	Gem Corundum Deposits of Greece: Geology, Mineralogy and Genesis. Minerals (Basel, Switzerland), 2019, 9, 49.	2.0	16
38	LA-ICP-MS analyses of Fe-rich alloys: quantification of matrix effects for 193Ânm excimer laser systems. Journal of Analytical Atomic Spectrometry, 2019, 34, 222-231.	3.0	22
39	Evaporation of moderately volatile elements from silicate melts: experiments and theory. Geochimica Et Cosmochimica Acta, 2019, 260, 204-231.	3.9	102
40	The potential of phosphorus in clinopyroxene as a geospeedometer: Examples from mantle xenoliths. Geochimica Et Cosmochimica Acta, 2019, 266, 307-331.	3.9	11
41	Process-related isotope variability in oceanic basalts revealed by high-precision Sr isotope ratios in olivine-hosted melt inclusions. Chemical Geology, 2019, 524, 1-10.	3.3	5
42	Santorini volcano as a potential Martian analogue: The Balos Cove Basalts. Icarus, 2019, 325, 128-140.	2.5	3
43	Mid-infrared spectroscopy of planetary analogs: A database for planetary remote sensing. Icarus, 2019, 324, 86-103.	2.5	16
44	Trace Elements in Magnetite from the Pagoni Rachi Porphyry Prospect, NE Greece: Implications for Ore Genesis and Exploration. Minerals (Basel, Switzerland), 2019, 9, 725.	2.0	14
45	Significant depletion of volatile elements in the mantle of asteroid Vesta due to core formation. Icarus, 2019, 317, 669-681.	2.5	15
46	Reflectance spectra of synthetic Fe-free ortho- and clinoenstatites in the UV/VIS/IR and implications for remote sensing detection of Fe-free pyroxenes on planetary surfaces. Planetary and Space Science, 2018, 159, 43-55.	1.7	9
47	Mg isotope systematics during magmatic processes: Inter-mineral fractionation in mafic to ultramafic Hawaiian xenoliths. Geochimica Et Cosmochimica Acta, 2018, 226, 192-205.	3.9	37
48	Halogens in the Earth's Mantle: What We Know and What We Don't. Springer Geochemistry, 2018, , 847-869.	0.1	17
49	The effect of fluorine on the stability of wadsleyite: Implications for the nature and depths of the transition zone in the Earth's mantle. Earth and Planetary Science Letters, 2018, 482, 236-244.	4.4	19
50	High-pressure high-temperature tailoring of High Entropy Alloys for extreme environments. Journal of Alloys and Compounds, 2018, 738, 491-500.	5.5	45
51	Evidence for a sulfur-undersaturated lunar interior from the solubility of sulfur in lunar melts and sulfide-silicate partitioning of siderophile elements. Geochimica Et Cosmochimica Acta, 2018, 231, 130-156.	3.9	28
52	Experimentally determined trace element partition coefficients between hibonite, melilite, spinel, and silicate melts. Data in Brief, 2018, 21, 2447-2463.	1.0	6
53	Mineralogical Study of the Advanced Argillic Alteration Zone at the Konos Hill Mo–Cu–Re–Au Porphyry Prospect, NE Greece. Minerals (Basel, Switzerland), 2018, 8, 479.	2.0	11
54	On the Color and Genesis of Prase (Green Quartz) and Amethyst from the Island of Serifos, Cyclades, Greece. Minerals (Basel, Switzerland), 2018, 8, 487.	2.0	11

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55	Geophysical source conditions for basaltic lava from Santorini volcano based on geochemical modeling. Lithos, 2018, 316-317, 295-303.	1.4	6
56	Depletion of potassium and sodium in mantles of Mars, Moon and Vesta by core formation. Scientific Reports, 2018, 8, 7053.	3.3	12
57	Experimental constraints on mantle metasomatism caused by silicate and carbonate melts. Lithos, 2017, 282-283, 173-186.	1.4	94
58	Mineral Surface Rearrangement at High Temperatures: Implications for Extraterrestrial Mineral Grain Reactivity. ACS Earth and Space Chemistry, 2017, 1, 113-121.	2.7	7
59	Thermo-elastic behavior of grossular garnet at high pressures and temperatures. American Mineralogist, 2017, 102, 851-859.	1.9	38
60	IR spectroscopy of synthetic glasses with Mercury surface composition: Analogs for remote sensing. Icarus, 2017, 296, 123-138.	2.5	19
61	Experimental constraints on the stability of baddeleyite and zircon in carbonate- and silicate-carbonate melts. American Mineralogist, 2017, 102, 860-866.	1.9	14
62	The storage capacity of fluorine in olivine and pyroxene under upper mantle conditions. Geochimica Et Cosmochimica Acta, 2017, 208, 160-170.	3.9	19
63	Lithospheric diamond formation as a consequence of methane-rich volatile flooding: An example from diamondiferous eclogite xenoliths of the Karelian craton (Finland). Geochimica Et Cosmochimica Acta, 2017, 206, 312-342.	3.9	23
64	The role of F-clinohumite in volatile recycling processes in subduction zones. Geology, 2017, 45, 443-446.	4.4	30
65	Phosphorus zoning as a recorder of crystal growth kinetics: application to second-generation olivine in mantle xenoliths from the Cima Volcanic Field. Contributions To Mineralogy and Petrology, 2017, 172, 1.	3.1	9
66	An experimental investigation of the stability of majoritic garnet in the Earth's mantle and an improved majorite geobarometer. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	42
67	Fluorine partitioning between eclogitic garnet, clinopyroxene, and melt at upper mantle conditions. Chemical Geology, 2016, 437, 88-97.	3.3	18
68	Application of thermodynamic modelling to natural mantle xenoliths: examples of density variations and pressure–temperature evolution of the lithospheric mantle. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	12
69	Zircon saturation in silicate melts: a new and improved model for aluminous and alkaline melts. Contributions To Mineralogy and Petrology, 2016, 171, 1.	3.1	99
70	Experimental determination of trace element partition coefficients between spinel and silicate melt: the influence of chemical composition and oxygen fugacity. Contributions To Mineralogy and Petrology, 2015, 169, 1.	3.1	51
71	Mineralogy of the Earth: Phase Transitions and Mineralogy of the Upper Mantle. , 2015, , 7-31.		15
72	Distribution of halogens between fluid and apatite during fluid-mediated replacement processes. Geochimica Et Cosmochimica Acta, 2015, 170, 225-246.	3.9	120

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73	Thermodynamic and magnetic properties of knorringite garnet (Mg3Cr2Si3O12) based on low-temperature calorimetry and magnetic susceptibility measurements. Physics and Chemistry of Minerals, 2014, 41, 341-346.	0.8	10
74	Attenuation and scattering tomography of the deep plumbing system of Mount St. Helens. Journal of Geophysical Research: Solid Earth, 2014, 119, 8223-8238.	3.4	55
75	Electrophoretic deposition of alumina, yttria, yttrium aluminium garnet and lutetium aluminium garnet. Journal of Materials Science, 2014, 49, 6975-6985.	3.7	10
76	The stability of Fe–Ni carbides in the Earth's mantle: Evidence for a low Fe–Ni–C melt fraction in the deep mantle. Earth and Planetary Science Letters, 2014, 388, 211-221.	4.4	62
77	Synthesis of trace element bearing single crystals of Chlor-Apatite (Ca5(PO4)3Cl) using the flux growth method. Chemistry Central Journal, 2013, 7, 56.	2.6	4
78	Garnet and spinel in fertile and depleted mantle: insights from thermodynamic modelling. Contributions To Mineralogy and Petrology, 2013, 166, 411-421.	3.1	86
79	Trace element partitioning between perovskite and kimberlite to carbonatite melt: New experimental constraints. Chemical Geology, 2013, 353, 132-139.	3.3	37
80	The influence of composition on the local structure around yttrium in quenched silicate melts — Insights from EXAFS. Chemical Geology, 2013, 346, 3-13.	3.3	22
81	TOF-SIMS and electron microprobe investigations of zoned magmatic orthopyroxenes: First results of trace and minor element analysis with implications for diffusion modeling. American Mineralogist, 2012, 97, 532-542.	1.9	12
82	Fluorine in nominally fluorine-free mantle minerals: Experimental partitioning of F between olivine, orthopyroxene and silicate melts with implications for magmatic processes. Earth and Planetary Science Letters, 2012, 337-338, 1-9.	4.4	87
83	Tuning of Structure, Morphology and Magnetism in Postperovskite Oxide Solid Solutions. Chemistry of Materials, 2011, 23, 114-121.	6.7	10
84	Trace-element partitioning and boron isotope fractionation between white mica and tourmaline. Canadian Mineralogist, 2011, 49, 165-176.	1.0	58
85	Thermal history of Northwest Africa 5073––A coarseâ€grained Stannernâ€trend eucrite containing cmâ€sized pyroxenes and large zircon grains. Meteoritics and Planetary Science, 2011, 46, 1754-1773.	1.6	38
86	Thorium partitioning in Greek industrial bauxite investigated by synchrotron radiation and laser-ablation techniques. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 3067-3073.	1.4	27
87	Nb–Ta fractionation by partial melting at the titanite–rutile transition. Contributions To Mineralogy and Petrology, 2011, 161, 35-45.	3.1	104
88	High-pressure Raman studies and heat capacity measurements on the MgSiO3 analogue Calr0.5Pt0.5O3. Physics and Chemistry of Minerals, 2011, 38, 631-637.	0.8	5
89	New thermodynamic data for CoTiO3, NiTiO3 and CoCO3 based on low-temperature calorimetric measurements. Chemistry Central Journal, 2011, 5, 54.	2.6	17
90	Experimental constraints on the evolution of iron and phosphorus-rich melts: experiments in the system CaO-MgO-Fe2O3-P2O5-SiO2-H2O-CO2. Journal of Mineralogical and Petrological Sciences, 2010, 105, 1-8.	0.9	9

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91	Extremely high solubility of rutile in chloride and fluoride-bearing metamorphic fluids: An experimental investigation. Geology, 2010, 38, 323-326.	4.4	172
92	The thermal equation of state of FeTiO3 ilmenite based on in situ X-ray diffraction at high pressures and temperatures. American Mineralogist, 2010, 95, 1708-1716.	1.9	13
93	Thermodynamic modelling of Cr-bearing garnets with implications for diamond inclusions and peridotite xenoliths. Lithos, 2009, 112, 986-991.	1.4	43
94	Trace element partitioning between orthopyroxene and anhydrous silicate melt on the lherzolite solidus from 1.1 to 3.2ÂGPa and 1,230 to 1,535°C in the model system Na2O–CaO–MgO–Al2O3–SiO2 Contributions To Mineralogy and Petrology, 2009, 157, 473-490.	2.3.1	62
95	Heterogeneous distribution of phosphorus in olivine from otherwise well-equilibrated spinel peridotite xenoliths and its implications for the mantle geochemistry of lithium. Contributions To Mineralogy and Petrology, 2009, 158, 485-504.	3.1	61
96	The heat capacities and thermodynamic properties of NiAl2O4 and CoAl2O4 measured by adiabatic calorimetry from T=(4 to 400)K. Journal of Chemical Thermodynamics, 2009, 41, 842-848.	2.0	7
97	Rutile crystals as potential trace element and isotope mineral standards for microanalysis. Chemical Geology, 2009, 261, 346-369.	3.3	208
98	Synthesis and Preliminary Characterisation of New Silicate, Phosphate and Titanite Reference Glasses. Geostandards and Geoanalytical Research, 2008, 32, 39-54.	1.9	42
99	Low temperature neutron diffraction study of MgCr ₂ O ₄ spinel. Journal of Physics Condensed Matter, 2008, 20, 104238.	1.8	44
100	XANES study of the oxidation state of Cr in lower mantle phases: Periclase and magnesium silicate perovskite. American Mineralogist, 2007, 92, 966-972.	1.9	28
101	Low-temperature heat capacities of MgAl2O4 and spinels of the MgCr2O4–MgAl2O4 solid solution. Physics and Chemistry of Minerals, 2007, 34, 59-72.	0.8	21
102	The partitioning of trace elements between ilmenite, ulvospinel, armalcolite and silicate melts with implications for the early differentiation of the moon. Chemical Geology, 2006, 234, 251-263.	3.3	268
103	Trace element partitioning between apatite and silicate melts. Geochimica Et Cosmochimica Acta, 2006, 70, 4513-4527.	3.9	400
104	Rare earth element partitioning between titanite and silicate melts: Henry's law revisited. Geochimica Et Cosmochimica Acta, 2006, 70, 4997-5012.	3.9	79
105	Evidence for fluoride melts in Earth's mantle formed by liquid immiscibility: Comment and Reply: REPLY. Geology, 2005, 33, e77-e77.	4.4	2
106	Low-temperature heat capacity of magnesioferrite (MgFe2O4). Physics and Chemistry of Minerals, 2005, 32, 374-378.	0.8	18
107	Hydrogen incorporation in orthopyroxene: interaction of different trivalent cations. Contributions To Mineralogy and Petrology, 2005, 150, 473-485.	3.1	57
108	Thermodynamic properties of uvarovite garnet (Ca3Cr2Si3O12). American Mineralogist, 2005, 90, 663-666.	1.9	26

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109	1s2p Resonant Inelastic X-ray Scattering of Iron Oxides. Journal of Physical Chemistry B, 2005, 109, 20751-20762.	2.6	108
110	Effect of melt composition on the partitioning of trace elements between titanite and silicate melt. Geochimica Et Cosmochimica Acta, 2005, 69, 695-709.	3.9	227
111	Partitioning of trace elements between rutile and silicate melts: Implications for subduction zones. Geochimica Et Cosmochimica Acta, 2005, 69, 2361-2371.	3.9	334
112	The influence of Cr on the garnet–spinel transition in the Earth's mantle: experiments in the system MgO–Cr2O3–SiO2 and thermodynamic modelling. Lithos, 2004, 77, 639-646.	1.4	197
113	Syngenetic inclusions of yimengite in diamond from Sese kimberlite (Zimbabwe) — evidence for metasomatic conditions of growth. Lithos, 2004, 77, 181-192.	1.4	28
114	Evidence for fluoride melts in Earth's mantle formed by liquid immiscibility. Geology, 2004, 32, 441.	4.4	48
115	The entropy of zinc chromite (ZnCr2O4). Mineralogical Magazine, 2004, 68, 515-522.	1.4	14
116	Trace element partitioning between baddeleyite and carbonatite melt at high pressures and high temperatures. Chemical Geology, 2003, 199, 233-242.	3.3	32
117	Trace-element partitioning between apatite and carbonatite melt. American Mineralogist, 2003, 88, 639-646.	1.9	118
118	Thermodynamic properties of hercynite (FeAl ₂ O ₄) based on adiabatic calorimetry at low temperatures. American Mineralogist, 2003, 88, 68-72.	1.9	26
119	Tetragonal low-temperature phase of MgCr2O4. Powder Diffraction, 2002, 17, 230-233.	0.2	34
120	Experimental constraints on major and trace element partitioning during partial melting of eclogite. Geochimica Et Cosmochimica Acta, 2002, 66, 3109-3123.	3.9	391
121	Thermodynamic properties of nickel chromite (NiCr 2 O 4) based on adiabatic calorimetry at low temperatures. Physics and Chemistry of Minerals, 2002, 29, 663-667.	0.8	62
122	The effect of Cr on the solubility of Al in orthopyroxene: experiments and thermodynamic modelling. Contributions To Mineralogy and Petrology, 2000, 140, 84-98.	3.1	61
123	The near-solidus transition from garnet lherzolite to spinel lherzolite. Contributions To Mineralogy and Petrology, 2000, 138, 237-248.	3.1	250
124	The heat capacity of MgCr ₂ O ₄ , FeCr ₂ O ₄ , and Cr ₂ O ₃ at low temperatures and derived thermodynamic properties. American Mineralogist, 2000, 85, 1686-1693.	1.9	74
125	The reaction MgCr 2 O 4 + SiO 2 = Cr 2 O 3 + MgSiO 3 and the free energy of formation of magnesiochromite (MgCr 2 O 4). Contributions To Mineralogy and Petrology, 1997, 130, 59-65.	3.1	45
126	Experimentally determined trace and minor element partitioning between clinopyroxene and carbonatite melt under upper mantle conditions. Earth and Planetary Science Letters, 1995, 133, 439-448.	4.4	180

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127	First zunyite-bearing lithocap in Greece: The case of Konos Hill Mo-Re-Cu-Au porphyry system. . , 0, , .		5
128	Analysis of the CHARM Cuâ€alloy reference materials using excimer ns‣Aâ€ŀCPâ€MS: assessment of matrix effects and applicability to artefact provenancing. Archaeometry, 0, , .	1.3	2