StÃ©phane Gorsse

List of Publications by Year
in descending order

97 papers	5,449 citations	109137 35 h-index	82410 72 g-index
105 all docs	105 docs citations	105 times ranked	5186 citing authors

#	Article	IF	Citations
1	Additive manufacturing of metals: a brief review of the characteristic microstructures and properties of steels, Ti-6Al-4V and high-entropy alloys. Science and Technology of Advanced Materials, 2017, 18, 584-610.	2.8	660
2	Mechanical properties of Ti-6Al-4V/TiB composites with randomly oriented and aligned TiB reinforcements. Acta Materialia, 2003, 51, 2427-2442.	3.8	364
3	Mapping the world of complex concentrated alloys. Acta Materialia, 2017, 135, 177-187.	3.8	271
4	Modeling the precipitation processes and strengthening mechanisms in a Mg-Al-(Zn) AZ91 alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 2093-2105.	1.1	232
5	High temperature strength of refractory complex concentrated alloys. Acta Materialia, 2019, 175, 394-405.	3.8	207
6	Cu₂ZnGeSe₄ Nanocrystals: Synthesis and Thermoelectric Properties. Journal of the American Chemical Society, 2012, 134, 4060-4063.	6.6	199
7	Database on the mechanical properties of high entropy alloys and complex concentrated alloys. Data in Brief, 2018, 21, 2664-2678.	0.5	180
8	Modifying transformation pathways in high entropy alloys or complex concentrated alloys via thermo-mechanical processing. Acta Materialia, 2018, 153, 169-185.	3.8	169
9	Enhancing strength and strain hardenability via deformation twinning in fcc-based high entropy alloys reinforced with intermetallic compounds. Acta Materialia, 2019, 165, 420-430.	3.8	155
10	From high-entropy alloys to complex concentrated alloys. Comptes Rendus Physique, 2018, 19, 721-736.	0.3	154
11	Lattice dynamics and structure of GeTe, SnTe and PbTe. Physica Status Solidi (B): Basic Research, 2013, 250, 1300-1307.	0.7	145
12	Refinement of precipitate distributions in an age-hardenable Mgâ€“Sn alloy through microalloying. Philosophical Magazine Letters, 2006, 86, 443-456.	0.5	139
13	Tensile yield strength of a single bulk Al0.3CoCrFeNi high entropy alloy can be tuned from 160â€¯MPa to 1800â€¯MPa. Scripta Materialia, 2019, 162, 18-23.	2.6	138
14	Coreâ€“Shell Nanoparticles As Building Blocks for the Bottom-Up Production of Functional Nanocomposites: PbTeâ€“PbS Thermoelectric Properties. ACS Nano, 2013, 7, 2573-2586.	7.3	137
15	In situ preparation of titanium base composites reinforced by TiB single crystals using a powder metallurgy technique. Composites Part A: Applied Science and Manufacturing, 1998, 29, 1229-1234.	3.8	104
16	A thermodynamic assessment of the Mgâ€“Nd binary system using random solution and associate models for the liquid phase. Journal of Alloys and Compounds, 2005, 392, 253-262.	2.8	103
17	Colloidal synthesis and thermoelectric properties of Cu₂SnSe₃nanocrystals. Journal of Materials Chemistry A, 2013, 1, 1421-1426.	5.2	86
18	Change in the primary solidification phase from fcc to bcc -based B2 in high entropy or complex concentrated alloys. Scripta Materialia, 2017, 127, 186-190.	2.6	85

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19	Investigation of the Young's modulus of TiB needles in situ produced in titanium matrix composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 340, 80-87.	2.6	80
20	Crystallographic Control at the Nanoscale To Enhance Functionality: Polytypic Cu₂GeSe₃ Nanoparticles as Thermoelectric Materials. Chemistry of Materials, 2012, 24, 4615-4622.	3.2	79
21	Synthesis of nanostructured materials in supercritical ammonia: nitrides, metals and oxides. Journal of Materials Chemistry, 2004, 14, 228.	6.7	78
22	New strategies and tests to accelerate discovery and development of multi-principal element structural alloys. Scripta Materialia, 2017, 127, 195-200.	2.6	78
23	Nanostructuration via solid state transformation as a strategy for improving the thermoelectric efficiency of PbTe alloys. Acta Materialia, 2011, 59, 7425-7437.	3.8	67
24	Magnetocaloric effect and refrigeration capacity in Gd60Al10Mn30 nanocomposite. Applied Physics Letters, 2008, 92, .	1.5	63
25	About the Reliability of CALPHAD Predictions in Multicomponent Systems. Entropy, 2018, 20, 899.	1.1	63
26	Microstructural design of new high conductivity â€“ high strength Cu-based alloy. Journal of Alloys and Compounds, 2015, 633, 42-47.	2.8	61
27	Microstructure Engineering Design for Thermoelectric Materials: An Approach to Minimize Thermal Diffusivity. Chemistry of Materials, 2010, 22, 988-993.	3.2	59
28	Selective Laser Melting of Al0.3CoCrFeNi High-Entropy Alloy: Printability, Microstructure, and Mechanical Properties. Jom, 2019, 71, 3443-3451.	0.9	57
29	Engineering multi-scale B2 precipitation in a heterogeneous FCC based microstructure to enhance the mechanical properties of a Al0.5Co1.5CrFeNi1.5 high entropy alloy. Journal of Alloys and Compounds, 2020, 830, 154707.	2.8	57
30	Expanded dataset of mechanical properties and observed phases of multi-principal element alloys. Scientific Data, 2020, 7, 430.	2.4	54
31	Designing high entropy superalloys for elevated temperature application. Scripta Materialia, 2020, 187, 177-182.	2.6	52
32	Current and emerging practices of CALPHAD toward the development of high entropy alloys and complex concentrated alloys. Journal of Materials Research, 2018, 33, 2899-2923.	1.2	51
33	Enhanced tensile yield strength in laser additively manufactured Al0.3CoCrFeNi high entropy alloy. Materialia, 2020, 9, 100522.	1.3	46
34	Effect of microstructure on the thermal conductivity of nanostructured Mg2(Si,Sn) thermoelectric alloys: An experimental and modeling approach. Acta Materialia, 2015, 95, 102-110.	3.8	43
35	Thermodynamic analysis of glass-forming ability in a Ca-Mg-Zn ternary alloy system. Physical Review B, 2006, 73, .	1.1	37
36	Role of copper on L12 precipitation strengthened fcc based high entropy alloy. Materialia, 2019, 6, 100282.	1.3	31

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37	Discontinuous precipitation leading to nano-rod intermetallic precipitates in an Al0.2Ti0.3Co1.5CrFeNi1.5 high entropy alloy results in an excellent strength-ductility combination. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 805, 140551.	2.6	31
38	Bottom-up processing of thermoelectric nanocomposites from colloidal nanocrystal building blocks: the case of Ag2Teâ€“PbTe. Journal of Nanoparticle Research, 2012, 14, 1.	0.8	30
39	Tuning the degree of chemical ordering in the solid solution of a complex concentrated alloy and its impact on mechanical properties. Acta Materialia, 2021, 212, 116938.	3.8	29
40	A new approach in the understanding of the SiC/Ti reaction zone composition and morphology. Composites Part A: Applied Science and Manufacturing, 1998, 29, 1221-1227.	3.8	27
41	On the Cyclability of the Thermochromism in CuMoO₄ and Its Tungsten Derivatives CuMo_{1â€“x}W_xO₄ (x < 0.12). Chemistry of Materials, 2008, 20, 2075-2077.	3.2	27
42	Tunable magnetocaloric effect in Gd-based glassy ribbons. Journal of Applied Physics, 2011, 110, .	1.1	27
43	Combinatorial Approach Based on Interdiffusion Experiments for the Design of Thermoelectrics: Application to the Mg₂(Si,Sn) Alloys. Chemistry of Materials, 2014, 26, 4334-4337.	3.2	27
44	Hierarchical Eutectoid Nano-lamellar Decomposition in an Al0.3CoFeNi Complex Concentrated Alloy. Scientific Reports, 2020, 10, 4836.	1.6	27
45	Tensile creep behavior of HfNbTaTiZr refractory high entropy alloy at elevated temperatures. Acta Materialia, 2022, 237, 118188.	3.8	27
46	Study of the hydrogenation mechanism of LaCuMg8 ternary phase: The decomposition induces kinetics improvement. International Journal of Hydrogen Energy, 2012, 37, 11824-11834.	3.8	25
47	Thermoelectric properties of chromium disilicide prepared by mechanical alloying. Journal of Materials Science, 2013, 48, 6018-6024.	1.7	25
48	Cu2HgSnSe4 nanoparticles: synthesis and thermoelectric properties. CrystEngComm, 2013, 15, 8966.	1.3	25
49	Low thermal conductivity of endogenous manganese silicide/Si composites for thermoelectricity. Materials Letters, 2015, 155, 41-43.	1.3	25
50	Phonons, magnons, and lattice thermal transport in antiferromagnetic semiconductor MnTe. Physical Review Materials, 2019, 3, .	0.9	25
51	A thermodynamic assessment of the Cuî—¸Mgî—¸Ni ternary system. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2002, 26, 63-83.	0.7	23
52	Investigation on the thermal expansion behavior of FeCoNi and Fe30Co30Ni30Cr10-xMnx high entropy alloys. Materials Chemistry and Physics, 2021, 271, 124907.	2.0	22
53	Effects of additions of carbon nanotubes on the thermoelectric properties of Ni0.05Mo3Sb5.4Te1.6. Journal of Solid State Chemistry, 2015, 226, 164-169.	1.4	20
54	Effect of Composition on Thermoelectric Properties of Polycrystalline CrSi2. Journal of Electronic Materials, 2013, 42, 1042-1046.	1.0	19

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55	Polyamorphism in cerium based bulk metallic glasses: Electronic and structural properties under pressure and temperature by x-ray absorption techniques. Applied Physics Letters, 2013, 103, .	1.5	19
56	Thermoelectric properties of composites made of Ni0.05Mo3Sb5.4Te1.6 and fullerene. Journal of Solid State Chemistry, 2013, 203, 25-30.	1.4	18
57	Magnetocaloric effect in the ternary silicide Gd3NiSi2. Intermetallics, 2009, 17, 115-119.	1.8	17
58	Highly tunable magnetic and mechanical properties in an Al0.3CoFeNi complex concentrated alloy. Materialia, 2020, 12, 100755.	1.3	17
59	Hierarchical phase evolution in a lamellar Al0.7CoCrFeNi high entropy alloy involving competing metastable and stable phases. Scripta Materialia, 2021, 204, 114137.	2.6	17
60	Effect of co-substitution of Mn and Al on thermoelectric properties of chromium disilicide. Journal of Materials Science, 2013, 48, 227-231.	1.7	16
61	Thermal conductivity of Î²-FeSi2/Si endogenous composites formed by the eutectoid decomposition of Î±-Fe2Si5. Journal of Materials Science, 2015, 50, 6713-6718.	1.7	16
62	Modeling the precipitation processes and the formation of hierarchical microstructures in a single crystal high entropy superalloy. Scripta Materialia, 2021, 193, 147-152.	2.6	16
63	Magnetic and magnetocaloric properties of the ternary Gd-based metallic glasses Gd60Mn30X10, with X=Al, Ga, In. Journal of Alloys and Compounds, 2010, 507, 370-375.	2.8	15
64	Unveiling the thermodynamic driving forces for high entropy alloys formation through big data ab initio analysis. Scripta Materialia, 2021, 202, 114000.	2.6	15
65	Enhanced thermoelectric figure of merit in nano-structured Si dispersed higher manganese silicide. Materials Science in Semiconductor Processing, 2019, 104, 104649.	1.9	14
66	Microstructure and tensile property of a precipitation strengthened high entropy alloy processed by selective laser melting and post heat treatment. Additive Manufacturing, 2020, 36, 101601.	1.7	14
67	Studies of Zr-based C15 type metal hydride battery anode alloys prepared by rapid solidification. Journal of Alloys and Compounds, 2019, 804, 527-537.	2.8	13
68	Effect of Hafnium Addition on the Hydrogenation Process of TiFe Alloy. Energies, 2019, 12, 3477.	1.6	13
69	Magnetic behavior and magnetocaloric effect of neodymium-based amorphous alloy. Journal of Applied Physics, 2008, 103, 044902.	1.1	12
70	Engineering transformation pathways in an Al_{0.3}CoFeNi complex concentrated alloy leads to excellent strengthâ€“ductility combination. Materials Research Letters, 2020, 8, 399-407.	4.1	12
71	The new ternary silicide Gd5CoSi2: Structural, magnetic and magnetocaloric properties. Journal of Solid State Chemistry, 2011, 184, 325-330.	1.4	11
72	Multi-scale architectured thermoelectric materials in the Mg2(Si,Sn) system. Materials Letters, 2016, 166, 140-144.	1.3	11

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73	Microstructure study of cold rolled Al0.32CoCrFeMnNi high-entropy alloy: Interactions between recrystallization and precipitation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140452.	2.6	11
74	Magnetocaloric effect in Tb60Ni30Al10 glass: A material that can either heat or cool upon magnetization. Journal of Applied Physics, 2011, 109, 033914.	1.1	9
75	Thermoelectric Properties of Ni_{0.05}Mo₃Sb_{5.4}Te_{1.6} with Embedded SiC and Al₂O₃ Nanoparticles. European Journal of Inorganic Chemistry, 2016, 2016, 853-860.	1.0	9
76	The electrochemical performance of melt-spun C14-Laves type Ti Zr-based alloy. International Journal of Hydrogen Energy, 2020, 45, 1297-1303.	3.8	9
77	Composition Selection and Glass Forming Ability of Ce-Based Amorphous Alloys. Advanced Engineering Materials, 2007, 9, 483-486.	1.6	8
78	Metamagnetic transition in the 75K antiferromagnet Gd4Co2Mg3. Journal of Solid State Chemistry, 2009, 182, 948-953.	1.4	8
79	Stabilization by Si Substitution of the Pseudobinary Compound Gd2(Co3â€“xSix) with Magnetocaloric Properties around Room Temperature. Inorganic Chemistry, 2014, 53, 6728-6736.	1.9	8
80	Light iron and hard magnesium nanocomposites. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 651, 987-990.	2.6	8
81	Improved microstructure and thermoelectric properties of higher manganese silicide processed by reactive spark plasma sintering. Journal of Materials Science, 2017, 52, 12826-12833.	1.7	8
82	Characterization and Modeling of NbNiTaTiW and NbNiTaTiW-Al Refractory High-Entropy Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 4867-4876.	1.1	8
83	Colloidal synthesis and functional properties of quaternary Cu-based semiconductors: Cu2HgGeSe4. Journal of Nanoparticle Research, 2014, 16, 1.	0.8	7
84	Elemental effects on the oxidation of refractory compositionally complex alloys. International Journal of Refractory Metals and Hard Materials, 2022, 108, 105918.	1.7	7
85	Transport, magnetic and thermal properties of amorphous and crystallized Ce2Ni2Ga ternary gallide. Journal of Alloys and Compounds, 2008, 463, 569-575.	2.8	6
86	Effect of Re on the Microstructure and Mechanical Properties of NbTiZr and TaTiZr Equiatomic Alloys. Metals, 2021, 11, 1819.	1.0	6
87	Physical properties of the multifunctional Mg 80 Ni 10 Gd 10 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 687, 332-336.	2.6	5
88	Insights into Defect-Mediated Nucleation of Equilibrium B2 Phase in Face-Centered Cubic High-Entropy Alloys. Jom, 2021, 73, 2320-2331.	0.9	5
89	Glass Formation Range of Mg-Based Bulk Metallic Alloys. Materials Science Forum, 2007, 539-543, 2018-2025.	0.3	4
90	Studies of the effect of melt spinning on the electrochemical properties of the AB2 Laves phase alloys. The International Journal of Mechanical Engineering and Sciences, 2021, 5, 24.	0.1	3

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91	High-throughput experiment for the rapid screening of organic phase change materials. Journal of Thermal Analysis and Calorimetry, 2022, 147, 8137-8143.	2.0	2
92	Modelling the Crystallization Reactions of Amorphous Precursors in Fe₃B/Nd₂Fe₁₄B Nanocomposite Magnets. Materials Science Forum, 2010, 654-656, 1166-1169.	0.3	1
93	Transport properties of a molybdenum antimonide-telluride with dispersed NiSb nanoparticles. Materials Chemistry and Physics, 2021, 260, 124061.	2.0	1
94	Magnetic structure of the ferromagnetic new ternary silicide Nd5CoSi2. Journal of Physics Condensed Matter, 2012, 24, 136001.	0.7	0
95	Calphad description of the Ge-Mn system. Materials Research Society Symposia Proceedings, 2014, 1642, 1.	0.1	0
96	Thermodynamic description of Ge-Mn-Si. Materials Research Society Symposia Proceedings, 2014, 1642, 1.	0.1	0
97	Une nouvelle approche dans la comprÃ©hension de l'interaction SiC/Ti. European Physical Journal Special Topics, 1999, 09, Pr4-241-Pr4-248.	0.2	0