

Guillaume Laplanche

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59
papers

2,880
citations

23
h-index

53
g-index

62
ext. papers

3,869
ext. citations

5.2
avg, IF

5.89
L-index

#	Paper	IF	Citations
59	Microstructure evolution and critical stress for twinning in the CrMnFeCoNi high-entropy alloy. <i>Acta Materialia</i> , 2016 , 118, 152-163	8.4	540
58	Reasons for the superior mechanical properties of medium-entropy CrCoNi compared to high-entropy CrMnFeCoNi. <i>Acta Materialia</i> , 2017 , 128, 292-303	8.4	468
57	Temperature dependencies of the elastic moduli and thermal expansion coefficient of an equiatomic, single-phase CoCrFeMnNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2015 , 623, 348-353	5.7	243
56	Microstructural evolution of a CoCrFeMnNi high-entropy alloy after swaging and annealing. <i>Journal of Alloys and Compounds</i> , 2015 , 647, 548-557	5.7	127
55	Elastic moduli and thermal expansion coefficients of medium-entropy subsystems of the CrMnFeCoNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2018 , 746, 244-255	5.7	123
54	Oxidation Behavior of the CrMnFeCoNi High-Entropy Alloy. <i>Oxidation of Metals</i> , 2016 , 85, 629-645	1.6	122
53	Phase stability and kinetics of ϵ phase precipitation in CrMnFeCoNi high-entropy alloys. <i>Acta Materialia</i> , 2018 , 161, 338-351	8.4	121
52	Effect of temperature on the fatigue-crack growth behavior of the high-entropy alloy CrMnFeCoNi. <i>Intermetallics</i> , 2017 , 88, 65-72	3.5	110
51	Effect of temperature and texture on the reorientation of martensite variants in NiTi shape memory alloys. <i>Acta Materialia</i> , 2017 , 127, 143-152	8.4	86
50	Thermal activation parameters of plastic flow reveal deformation mechanisms in the CrMnFeCoNi high-entropy alloy. <i>Acta Materialia</i> , 2018 , 143, 257-264	8.4	83
49	Analysis of strengthening due to grain boundaries and annealing twin boundaries in the CrCoNi medium-entropy alloy. <i>International Journal of Plasticity</i> , 2020 , 124, 155-169	7.6	77
48	Powder metallurgy processing and compressive properties of Ti3AlC2/Al composites. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2011 , 530, 168-173	5.3	53
47	Laser metal deposition of compositionally graded TiZrNbTa refractory high-entropy alloys using elemental powder blends. <i>Additive Manufacturing</i> , 2019 , 25, 252-262	6.1	52
46	Temperature and load-ratio dependent fatigue-crack growth in the CrMnFeCoNi high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2019 , 794, 525-533	5.7	45
45	Microstructures and mechanical properties of Al-base composite materials reinforced by Al ₂ O ₃ particles. <i>Journal of Alloys and Compounds</i> , 2010 , 493, 453-460	5.7	39
44	Columnar to equiaxed transition and grain refinement of cast CrCoNi medium-entropy alloy by microalloying with titanium and carbon. <i>Journal of Alloys and Compounds</i> , 2019 , 775, 1068-1076	5.7	37
43	Laser metal deposition of a refractory TiZrNbHfTa high-entropy alloy. <i>Additive Manufacturing</i> , 2018 , 24, 386-390	6.1	37

42	Sudden stress-induced transformation events during nanoindentation of NiTi shape memory alloys. <i>Acta Materialia</i> , 2014 , 78, 144-160	8.4	32
41	Effects of temperature on mechanical properties and deformation mechanisms of the equiatomic CrFeNi medium-entropy alloy. <i>Acta Materialia</i> , 2021 , 204, 116470	8.4	32
40	Orientation dependence of stress-induced martensite formation during nanoindentation in NiTi shape memory alloys. <i>Acta Materialia</i> , 2014 , 68, 19-31	8.4	27
39	Microstructural and mechanical study of an Al matrix composite reinforced by Al-Cu-Fe icosahedral particles. <i>Journal of Materials Research</i> , 2010 , 25, 957-965	2.5	26
38	Processing of a single-crystalline CrCoNi medium-entropy alloy and evolution of its thermal expansion and elastic stiffness coefficients with temperature. <i>Scripta Materialia</i> , 2020 , 177, 44-48	5.6	24
37	Interdiffusion in CrFeCoNi medium-entropy alloys. <i>Intermetallics</i> , 2020 , 122, 106789	3.5	23
36	Compressive Behavior of Ti ₃ AlC ₂ and Ti ₃ Al _{0.8} Sn _{0.2} C ₂ MAX Phases at Room Temperature. <i>Journal of the American Ceramic Society</i> , 2013 , 96, 567-576	3.8	23
35	Effects of cryogenic temperature and grain size on fatigue-crack propagation in the medium-entropy CrCoNi alloy. <i>Acta Materialia</i> , 2020 , 200, 351-365	8.4	23
34	Superior low-cycle fatigue properties of CoCrNi compared to CoCrFeMnNi. <i>Scripta Materialia</i> , 2021 , 194, 113667	5.6	23
33	Temperature dependence of elastic moduli in a refractory HfNbTaTiZr high-entropy alloy. <i>Journal of Alloys and Compounds</i> , 2019 , 799, 538-545	5.7	22
32	Effect of Temperature and Texture on Hall-Petch Strengthening by Grain and Annealing Twin Boundaries in the MnFeNi Medium-Entropy Alloy. <i>Metals</i> , 2019 , 9, 84	2.3	22
31	Comparison of cryogenic deformation of the concentrated solid solutions CoCrFeMnNi, CoCrNi and CoNi. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020 , 783, 139290	5.3	21
30	Mechanical properties of AlCuFe quasicrystalline and crystalline phases: An analogy. <i>Intermetallics</i> , 2014 , 50, 54-58	3.5	20
29	Deformation mechanisms in a superelastic NiTi alloy: An in-situ high resolution digital image correlation study. <i>Materials and Design</i> , 2020 , 191, 108622	8.1	19
28	Processing of NiTi shape memory sheets [Microstructural heterogeneity and evolution of texture. <i>Journal of Alloys and Compounds</i> , 2015 , 651, 333-339	5.7	17
27	Growth kinetics of ϵ phase precipitates and underlying diffusion processes in CrMnFeCoNi high-entropy alloys. <i>Acta Materialia</i> , 2020 , 199, 193-208	8.4	17
26	On the onset of deformation twinning in the CrFeMnCoNi high-entropy alloy using a novel tensile specimen geometry. <i>Intermetallics</i> , 2019 , 110, 106469	3.5	15
25	Effect of Al, Ti and C additions on Widmanstätten microstructures and mechanical properties of cast Al _{0.6} CoCrFeNi compositionally complex alloys. <i>Materials and Design</i> , 2019 , 184, 108201	8.1	14

24	Synthesis and brittle-to-ductile transition of the ϵ -Al _{0.7} Cu _{0.2} Fe _{0.1} tetragonal phase. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010 , 527, 4515-4518	5.3	13
23	Assessment of strain hardening in copper single crystals using in situ SEM microshear experiments. <i>Acta Materialia</i> , 2016 , 113, 320-334	8.4	12
22	Al-matrix composite materials reinforced by Al-Cu-Fe particles. <i>Journal of Physics: Conference Series</i> , 2010 , 240, 012013	0.3	12
21	High-Temperature Oxidation in Dry and Humid Atmospheres of the Equiatomic CrMnFeCoNi and CrCoNi High- and Medium-Entropy Alloys. <i>Oxidation of Metals</i> , 2021 , 95, 105-133	1.6	9
20	On the influence of crystallography and dendritic microstructure on micro shear behavior of single crystal Ni-based superalloys. <i>Acta Materialia</i> , 2018 , 160, 173-184	8.4	9
19	Spark plasma sintering synthesis and mechanical spectroscopy of the ϵ -Al _{0.7} Cu _{0.2} Fe _{0.1} phase. <i>Journal of Materials Science</i> , 2012 , 47, 169-175	4.3	8
18	Welding of high-entropy alloys and compositionally complex alloys—An overview. <i>Welding in the World, Le Soudage Dans Le Monde</i> , 2021 , 65, 1645-1659	1.9	8
17	Laser metal deposition of refractory high-entropy alloys for high-throughput synthesis and structure-property characterization. <i>International Journal of Extreme Manufacturing</i> , 2021 , 3, 015201	7.9	7
16	Influence of machining on the surface integrity of high- and medium-entropy alloys. <i>Materials Chemistry and Physics</i> , 2022 , 275, 125271	4.4	7
15	Tracer diffusion in the β phase of the CoCrFeMnNi system. <i>Acta Materialia</i> , 2021 , 203, 116498	8.4	6
14	Benchmark dataset of the effect of grain size on strength in the single-phase FCC CrCoNi medium entropy alloy. <i>Data in Brief</i> , 2019 , 27, 104592	1.2	4
13	Plasticity of the ϵ -Al ₇ Cu ₂ Fe phase. <i>Journal of Alloys and Compounds</i> , 2016 , 665, 144-151	5.7	4
12	On Shear Testing of Single Crystal Ni-Base Superalloys. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2018 , 49, 3951-3962	2.3	3
11	Plasticity induced by nanoindentation in a CrCoNi medium-entropy alloy studied by accurate electron channeling contrast imaging revealing dislocation-low angle grain boundary interactions. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021 , 817, 1411364	5.3	3
10	Effects of Cr/Ni ratio on physical properties of Cr-Mn-Fe-Co-Ni high-entropy alloys. <i>Acta Materialia</i> , 2022 , 227, 117693	8.4	2
9	Data compilation on the effect of grain size, temperature, and texture on the strength of a single-phase FCC MnFeNi medium-entropy alloy. <i>Data in Brief</i> , 2020 , 28, 104807	1.2	2
8	Laser metal deposition of Al _{0.6} CoCrFeNi with Ti & C additions using elemental powder blends. <i>Surface and Coatings Technology</i> , 2021 , 418, 127233	4.4	2
7	Experimental and Theoretical Investigation on Phase Formation and Mechanical Properties in Cr-Co-Ni Alloys Processed Using a Novel Thin-Film Quenching Technique. <i>ACS Combinatorial Science</i> , 2020 , 22, 232-247	3.9	1

- 6 Influence of Mo/Cr ratio on the lamellar microstructure and mechanical properties of as-cast Al_{0.75}CoCrFeNi compositionally complex alloys. *Journal of Alloys and Compounds*, **2022**, 899, 163183 5.7 1
- 5 Data related to the growth of ϵ phase precipitates in CrMnFeCoNi high-entropy alloys: Temporal evolutions of precipitate dimensions and concentration profiles at interfaces. *Data in Brief*, **2020**, 33, 106449 1.2 1
- 4 Data regarding the influence of Al, Ti, and C additions to as-cast AlCoCrFeNi compositionally complex alloys on microstructures and mechanical properties. *Data in Brief*, **2019**, 27, 104742 1.2 1
- 3 Data compilation regarding the effects of grain size and temperature on the strength of the single-phase FCC CrFeNi medium-entropy alloy. *Data in Brief*, **2021**, 34, 106712 1.2 1
- 2 Precipitation Hardenable High Entropy Alloy for Tooling Applications. *MRS Advances*, **2019**, 4, 1427-1433. 0.7
- 1 Design of a new wrought CrCoNi-based medium-entropy superalloy C-264 for high-temperature applications. *Materials and Design*, **2021**, 211, 110174 8.1