Guy Dirras

List of Publications by Year
in descending order

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115 papers	2,948 citations	236612 25 h-index	197535 49 g-index
118 all docs	118 docs citations	118 times ranked	2109 citing authors

#	Article	IF	Citations
1	On the room temperature deformation mechanisms of a TiZrHfNbTa refractory high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 645, 255-263.	2.6	189
2	Design and tensile properties of a bcc Ti-rich high-entropy alloy with transformation-induced plasticity. Materials Research Letters, 2017, 5, 110-116.	4.1	153
3	Elastic and plastic properties of as-cast equimolar TiHfZrTaNb high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 654, 30-38.	2.6	146
4	Study of a bcc multi-principal element alloy: Tensile and simple shear properties and underlying deformation mechanisms. Acta Materialia, 2018, 142, 131-141.	3.8	138
5	Measured mechanical properties of LIGA Ni structures. Sensors and Actuators A: Physical, 2003, 103, 59-63.	2.0	135
6	Microstructure of a near-equimolar refractory high-entropy alloy. Materials Letters, 2014, 126, 285-287.	1.3	135
7	Macroscopic and microscopic aspects of the deformation and fracture mechanisms of ultrafine-grained aluminum processed by hot isostatic pressing. Acta Materialia, 2006, 54, 411-421.	3.8	121
8	Comprehensive data compilation on the mechanical properties of refractory high-entropy alloys. Data in Brief, 2018, 21, 1622-1641.	0.5	105
9	On the microstructure and physical properties of untreated raffia textilis fiber. Composites Part A: Applied Science and Manufacturing, 2009, 40, 418-422.	3.8	97
10	Microstructural investigation of plastically deformed Ti20Zr20Hf20Nb20Ta20 high entropy alloy by X-ray diffraction and transmission electron microscopy. Materials Characterization, 2015, 108, 1-7.	1.9	84
11	Mechanical behavior and microstructure of Ti20Hf20Zr20Ta20Nb20 high-entropy alloy loaded under quasi-static and dynamic compression conditions. Materials Characterization, 2016, 111, 106-113.	1.9	82
12	Microstructure and mechanical characteristics of bulk polycrystalline Ni consolidated from blends of powders with different particle size. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 1206-1214.	2.6	71
13	Body-centered cubic high-entropy alloys: From processing to underlying deformation mechanisms. Materials Characterization, 2019, 147, 533-544.	1.9	68
14	On the strengthening behavior of ultrafine-grained nickel processed from nanopowders. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 3227-3235.	2.6	52
15	A bimodal bulk ultra-fine-grained nickel: Experimental and micromechanical investigations. Mechanics of Materials, 2010, 42, 522-536.	1.7	50
16	Effects of Alkali Treatment on the Microstructure, Composition, and Properties of the Raffia textilis Fiber. BioResources, 2013, 8, .	0.5	48
17	Effect of nano-yttria stabilized zirconia addition on the microstructure and mechanical properties of Ti6Al4V parts manufactured by selective laser melting. Materials and Design, 2019, 180, 107909.	3.3	45
18	Conventional vs harmonic-structured Î²-Ti-25Nb-25Zr alloys: A comparative study of deformation mechanisms. Acta Materialia, 2018, 161, 420-430.	3.8	37

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19	Microstructure and mechanical behavior of ultrafine-grained Ni processed by different powder metallurgy methods. Journal of Materials Research, 2009, 24, 217-226.	1.2	36
20	Elastic properties of Î²-SiC films by Brillouin light scattering. Journal of Applied Physics, 2004, 95, 2324-2330.	1.1	35
21	A three-dimensional multi-scale polycrystalline plasticity model coupled with damage for pure Ti with harmonic structure design. International Journal of Plasticity, 2018, 100, 192-207.	4.1	34
22	Microstructure and yield strength of ultrafine grained aluminum processed by hot isostatic pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 458, 385-390.	2.6	32
23	Harmonic structure, a promising microstructure design. Materials Research Letters, 2022, 10, 440-471.	4.1	29
24	A revisited generalized self-consistent polycrystal model following an incremental small strain formulation and including grain-size distribution effect. International Journal of Engineering Science, 2009, 47, 537-553.	2.7	28
25	Cyclic shear behavior of conventional and harmonic structure-designed Ti-25Nb-25Zr Î²-titanium alloy: Back-stress hardening and twinning inhibition. Scripta Materialia, 2017, 138, 44-47.	2.6	28
26	Dynamic Hall-Petch versus grain-size gradient effects on the mechanical behavior under simple shear loading of Î²-titanium Ti-25Nb-25Zr alloys. Materials Letters, 2017, 206, 214-216.	1.3	28
27	Four-point bending fatigue behavior of an equimolar BCC HfNbTaTiZr high-entropy alloy: Macroscopic and microscopic viewpoints. Materialia, 2018, 4, 348-360.	1.3	26
28	A new concept for producing ultrafine-grained metallic structures via an intermediate strain rate: Experiments and modeling. International Journal of Mechanical Sciences, 2009, 51, 797-806.	3.6	25
29	Bulk Niâ€“W alloys with a composite-like microstructure processed by spark plasma sintering: Microstructure and mechanical properties. Materials and Design, 2016, 89, 1181-1190.	3.3	25
30	Room temperature deformation mechanisms in ultrafine-grained materials processed by hot isostatic pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 462, 100-105.	2.6	24
31	Nanostructured cobalt powders synthesised by polyol process and consolidated by Spark Plasma Sintering: Microstructure and mechanical properties. Materials Characterization, 2012, 69, 1-8.	1.9	24
32	Three-Dimensionally Gradient and Periodic Harmonic Structure for High Performance Advanced Structural Materials. Materials Transactions, 2016, 57, 1424-1432.	0.4	24
33	A 3D crystal plasticity model of monotonic and cyclic simple shear deformation for commercial-purity polycrystalline Ti with a harmonic structure. Mechanics of Materials, 2019, 128, 117-128.	1.7	24
34	Calculation of antiphase boundaries on {110} planes in a b2 ordered compound by the cluster variation method. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1992, 65, 477-496.	0.8	23
35	Microstructure and nanohardness distribution in a polycrystalline Zn deformed by high strain rate impact. Materials Characterization, 2011, 62, 480-487.	1.9	23
36	Weak-beam study of the dislocation microstructure of Î²-CuZn deformed in the temperature domain of the plastic anomaly. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1992, 65, 815-828.	0.8	21

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37	Elasto-plastic behaviour of thin metal films. Philosophical Magazine, 2007, 87, 4875-4892.	0.7	21
38	Microstructure of Alâ€“Al2O3 nanocomposite formed by in situ phase transformation during Al nanopowder consolidation. Materials Chemistry and Physics, 2011, 129, 846-852.	2.0	21
39	Nickel with multimodal grain size distribution achieved by SPS: microstructure and mechanical properties. Journal of Materials Science, 2012, 47, 7926-7931.	1.7	21
40	Investigation of deformation micro-mechanisms in nickel consolidated from a bimodal powder by spark plasma sintering. Materials Characterization, 2015, 99, 118-127.	1.9	21
41	On the microstructural evolution of cold-rolled Al+5at.% Mg. Scripta Metallurgica Et Materialia, 1995, 33, 755-760.	1.0	20
42	An Approach of Precipitate/Dislocation Interaction in Age-Hardened Al-Mg-Si Alloys: Measurement of the Strain Field around Precipitates and Related Simulation of the Dislocation Propagation. Materials Science Forum, 2002, 396-402, 1019-1024.	0.3	20
43	Mechanical behaviour and underlying deformation mechanisms in coarse- and ultrafine-grained Zn over a wide range of strain rates. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 564, 273-283.	2.6	20
44	Microstructure and mechanical properties of bulk highly faulted fcc/hcp nanostructured cobalt microstructures. Materials Characterization, 2014, 91, 26-33.	1.9	20
45	Characterization of bulk bimodal polycrystalline nickel deformed by direct impact loadings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 601, 48-57.	2.6	19
46	Microstructure and mechanical properties of ultrafine-grained fcc/hcp cobalt processed by a bottom-up approach. Journal of Alloys and Compounds, 2010, 489, 424-428.	2.8	18
47	Study of the stability under in vitro physiological conditions of surface silanized equimolar HfNbTaTiZr high-entropy alloy: A first step toward bio-implant applications. Surface and Coatings Technology, 2020, 385, 125374.	2.2	18
48	Macroscopic behaviour versus dislocation substructures development under cyclic shear tests on the aluminiumâ€“3004 alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 263, 85-95.	2.6	17
49	Fine-grained nickel deformed by direct impact at different velocities: Microstructure and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 4128-4135.	2.6	17
50	Room-temperature deformation micro-mechanisms of polycrystalline nickel processed by spark plasma sintering. Materials Characterization, 2013, 79, 76-83.	1.9	17
51	Powder metallurgy processing and deformation characteristics of bulk multimodal nickel. Materials Characterization, 2014, 94, 126-137.	1.9	17
52	Extra-strengthening in a harmonic structure designed pure titanium due to preferential recrystallization phenomenon through thermomechanical treatment. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 797, 140227.	2.6	17
53	Mechanical characteristics under monotonic and cyclic simple shear of spark plasma sintered ultrafine-grained nickel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 526, 201-210.	2.6	16
54	High performance Ti-6Al-4V alloy by creation of harmonic structure design. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012030.	0.3	14

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55	Size effects in micro-tensile testing of high purity polycrystalline nickel. International Journal of Engineering Science, 2017, 119, 192-204.	2.7	14
56	Stress field around precipitates: direct measurement and relation with the behavior of dislocations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 270-273.	2.6	13
57	Chapter 90 Mechanical Properties of Nanograined Metallic Polycrystals. Dislocations in Solids, 2009, 15, 199-248.	1.6	13
58	Filament formation during elevated temperature deformation of high purity ultrafine-grained aluminum. Materials Letters, 2010, 64, 1163-1165.	1.3	13
59	Modelling of microstructural effects on the mechanical behavior of ultrafine-grained Nickel using crystal plasticity finite element model. International Journal of Engineering Science, 2015, 94, 212-225.	2.7	13
60	Analysis of the fatigue crack growth mechanisms in equimolar body centered cubic HfNbTaTiZr high-entropy alloy: Discussions on its singularities and consequences on the crack propagation rate properties. Intermetallics, 2019, 110, 106459.	1.8	13
61	Harmonic Structure Design: A Strategy for Outstanding Mechanical Properties in Structural Materials. Metals, 2020, 10, 1615.	1.0	13
62	Effect of hot isostatic pressing on microstructure and mechanical properties of Ti6Al4V-zirconia nanocomposites processed by laser-powder bed fusion. Materials and Design, 2022, 214, 110392.	3.3	13
63	Synthesis of nanometric MoNbW alloy using self-propagating high-temperature synthesis. Advanced Powder Technology, 2017, 28, 1739-1744.	2.0	12
64	Influence of Triaxial Stress State on Ductile Fracture Strength of Polycrystalline Nickel. International Journal of Fracture, 2013, 182, 267-274.	1.1	11
65	Microstructure and strength of nickel subjected to large plastic deformation at very high strain rate. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 662, 9-15.	2.6	11
66	Numerical modeling on strengthening mechanisms of the harmonic structured design on CP-Ti and Tiâ€“6Alâ€“4V. International Journal of Plasticity, 2020, 133, 102793.	4.1	11
67	Mechanical Properties of Thin Film Silicon Carbide. Materials Research Society Symposia Proceedings, 2001, 687, 1.	0.1	10
68	High Purity Ultrafineâ€Grained Nickel Processed by Dynamic Plastic Deformation: Microstructure and Mechanical Properties. Advanced Engineering Materials, 2012, 14, 1027-1033.	1.6	10
69	Indentation creep study on ultrafine-grained Zn processed by powder metallurgy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 596, 170-175.	2.6	10
70	Data on the impact of increasing the W amount on the mass density and compressive properties of Niâ€“W alloys processed by spark plasma sintering. Data in Brief, 2016, 7, 1405-1408.	0.5	9
71	Fatigue performance of zirconia-reinforced Ti-6Al-4V nanocomposite processed by laser powder bed fusion: An improvement by hot isostatic pressing. International Journal of Fatigue, 2022, 164, 107129.	2.8	9
72	Cluster variation method calculation of antiphase boundaries on {112} plane in a B2 ordered compound application to Î²-CuZn. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1993, 67, 813-826.	0.8	8

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73	Bulk Ultrafine-Grained Nickel Consolidated from Nanopowders. Materials Science Forum, 0, 589, 93-98.	0.3	8
74	Synthesis of nanometric refractory alloys powders in the Mo Nb W system. Journal of Alloys and Compounds, 2016, 679, 80-87.	2.8	8
75	Fracture behavior of Ni-W alloy probed by in situ synchrotron X-ray diffraction. Materials Letters, 2019, 239, 116-119.	1.3	8
76	Powder Metallurgy Processing and Mechanical Properties of Controlled Ti-24Nb-4Zr-8Sn Heterogeneous Microstructures. Metals, 2020, 10, 1626.	1.0	8
77	Microstructure evolution during direct impact loading of commercial purityÎ±-titanium with harmonic structure design. Materiaux Et Techniques, 2015, 103, 311.	0.3	8
78	Investigating the elastic properties of Î²-SiC films. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 387-389, 302-306.	2.6	7
79	Data on processing of Ti-25Nb-25Zr Î²-titanium alloys via powder metallurgy route: Methodology, microstructure and mechanical properties. Data in Brief, 2018, 17, 703-708.	0.5	7
80	Influence of the elastic stress relaxation on the microstructures and mechanical properties of metalâ€“matrix composites. Composites Part A: Applied Science and Manufacturing, 2002, 33, 1397-1401.	3.8	6
81	Microstructure engineering from metallic powder blends for enhanced mechanical properties. Journal of Physics: Conference Series, 2010, 240, 012016.	0.3	6
82	Microstructure characterization of highâ€purity aluminum processed by dynamic severe plastic deformation. Physica Status Solidi (A) Applications and Materials Science, 2010, 207, 2233-2237.	0.8	6
83	Functionalization of New Biocompatible Titanium Alloys with Harmonic Structure Design by Using UV Irradiation. Irbm, 2017, 38, 190-197.	3.7	6
84	Data related to spectrum analyzes for phases identification, microstructure and mechanical properties of additive manufactured Ti6Al4V reinforced with nano Yttria stabilized zirconia. Data in Brief, 2020, 29, 105249.	0.5	6
85	Mesostructure of the localization in prestrained mild steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 304-307.	2.6	5
86	Microstructural evolution during monotonic and reverse shearing of AA5182 aluminium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 457-460.	2.6	5
87	Ultrafine-grained nickel refined by dislocation activities at intermediate strain rate impact: deformation microstructure and mechanical properties. Journal of Materials Science, 2012, 47, 7932-7938.	1.7	5
88	Ultrafine-Grained Aluminum Processed by a Combination of Hot Isostatic Pressing and Dynamic Plastic Deformation: Microstructure and Mechanical Properties. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 1312-1322.	1.1	5
89	Convective and Microwave Dryings of Raffia Fruit: Modeling and Effects on Color and Hardness. Research Journal of Applied Sciences, Engineering and Technology, 2013, 6, 2715-2723.	0.1	5
90	Mechanical Properties of Spark Plasma Sintering-Processed Pure Ti and Ti-6Al-4V Alloys: A Comparative Study between Harmonic and Non-Harmonic Microstructures. Compounds, 2021, 1, 41-57.	1.0	5

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91	On the existence of superlattice intrinsic stacking fault-superlattice extrinsic stacking fault coupled pairs in an LI2alloy. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2001, 81, 467-478.	0.8	4
92	Data on the influence of cold isostatic pre-compaction on mechanical properties of polycrystalline nickel sintered using Spark Plasma Sintering. Data in Brief, 2017, 11, 61-67.	0.5	4
93	Ultrafine-Grained Two-Phase High-Entropy Alloy Microstructures Obtained via Recrystallization: Mechanical Properties. Frontiers in Materials, 2020, 7, .	1.2	4
94	Effect of mechanical milling on the harmonic structure development during spark plasma sintering of Ti-5Al-2Sn-4Zr-4Mo-2Cr-1Fe Î²-metastable titanium alloy (Î²-Cez alloy). Journal of Alloys and Compounds, 2021, 860, 158483.	2.8	4
95	Cyclic shear tests on Aluminium 3004 and 5182 alloys: macroscopic behaviour and substructural development. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1997, 234-236, 966-969.	2.6	3
96	The elasticâ€“plastic transition in nanograined polycrystals. International Journal of Materials Research, 2009, 100, 767-769.	0.1	3
97	Lattice Strain Evolutions in Ni-W Alloys during a Tensile Test Combined with Synchrotron X-ray Diffraction. Materials, 2020, 13, 4027.	1.3	3
98	Decomposition behavior of yttria-stabilized zirconia and its effect on directed energy deposited Ti-based composite material. Journal of Materials Science and Technology, 2022, 112, 138-150.	5.6	3
99	A Weak-Beam Study of the Microstructure of Î²-CUZN Deformed in the Domain of Flow Stress Anomaly. Materials Research Society Symposia Proceedings, 1988, 133, 737.	0.1	2
100	Microstructure and Mechanical Properties of Commercial Purity HIPed and Crushed Aluminum. Materials Science Forum, 2008, 584-586, 579-584.	0.3	2
101	Plasticity of nanocrystalline materials: a critical viewpoint. International Journal of Materials Research, 2009, 100, 1456-1460.	0.1	2
102	Magnetic properties of ultrafineâ€grained cobalt samples obtained from consolidated nanopowders. Physica Status Solidi (A) Applications and Materials Science, 2011, 208, 1942-1949.	0.8	2
103	Nickel-Tungsten Composite-Like Microstructures Processed by Spark Plasma Sintering for Structural Applications. , 2019, , 605-634.		2
104	A three-dimensional microstructure-based crystal plasticity model for coarse-grained and harmonic-structured Tiâ€“6Alâ€“4V under monotonic and cyclic shear loading. Acta Mechanica, 2020, 231, 4991-5005.	1.1	2
105	Influence of microstructural features on the yield strength of Tiâ€“6Alâ€“4V: a numerical study by using the crystal plasticity finite element method. Meccanica, 2021, 56, 1129-1146.	1.2	2
106	On the Role of the Underlying Microstructure on the Mechanical Properties of Microelectromechanical Systems (MEMS) Materials. Materials Research Society Symposia Proceedings, 2000, 657, 5221.	0.1	1
107	Effect of Processing Conditions on Microstructure and Mechanical Behaviour of Metals Sintered from Nanopowders. Materials Science Forum, 0, 729, 49-54.	0.3	1
108	Spark Plasma Sintering as a Route for Producing In-Demand Microstructures: Application to the Tensile-Ductility Enhancement of Polycrystalline Nickel. , 2019, , 575-604.		1

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109	News Trends in Powder Metallurgy: Microstructures, Properties, Durability. Metals, 2021, 11, 1216.	1.0	1
110	Study of harmonic microstructure development during Spark Plasma Sintering (SPS) of Î²-CEZ titanium alloy. MATEC Web of Conferences, 2020, 321, 12022.	0.1	1
111	Experimental investigation of the local environment and lattice distortion in refractory medium entropy alloys. Scripta Materialia, 2022, 211, 114532.	2.6	1
112	Role of experimental conditions and of thin foil ageing on the high temperature deformation microstructure of Î²-CuZn. Scripta Metallurgica Et Materialia, 1994, 31, 21-24.	1.0	0
113	Relating the mechanical properties of a pseudo-binary a L12 alloy to the deformation induced microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 319-321, 372-374.	2.6	0
114	Processing and Characterization of Nanocrystalline Aluminum Obtained by Hot Isostatic Pressing (HIP). , 2005, , 564-570.		0
115	Deformation Mechanisms in Ultrafine-Grained Zn at Different Strain Rates and Temperatures. Key Engineering Materials, 0, 592-593, 313-316.	0.4	0