Pavel NovÃ¡k

List of Publications by Year
in descending order

104 papers	1,406 citations	361296 20 h-index	434063 31 g-index
105 all docs	105 docs citations	105 times ranked	1220 citing authors

#	Article	IF	Citations
1	Removal of copper and nickel from water using nanocomposite of magnetic hydroxyapatite nanorods. Journal of Magnetism and Magnetic Materials, 2018, 456, 451-460.	1.0	111
2	The Critical Raw Materials in Cutting Tools for Machining Applications: A Review. Materials, 2020, 13, 1377.	1.3	89
3	On the formation of intermetallics in Feâ€“Al system â€“ An in situ XRD study. Intermetallics, 2013, 32, 127-136.	1.8	75
4	Effect of SHS conditions on microstructure of NiTi shape memory alloy. Intermetallics, 2013, 42, 85-91.	1.8	52
5	Solutions for Critical Raw Materials under Extreme Conditions: A Review. Materials, 2017, 10, 285.	1.3	52
6	Oxidation resistance of SHS Feâ€“Alâ€“Si alloys at 800ÂÂ°C in air. Intermetallics, 2011, 19, 1306-1312.	1.8	45
7	Preparation of Tiâ€“Alâ€“Si alloys by reactive sintering. Journal of Alloys and Compounds, 2009, 470, 123-126.	2.8	43
8	Formation of Niâ€“Ti intermetallics during reactive sintering at 500â€“650ÂÂ°C. Materials Chemistry and Physics, 2015, 155, 113-121.	2.0	41
9	Wear and corrosion resistance of a plasma-nitrided PM tool steel alloyed with niobium. Surface and Coatings Technology, 2006, 200, 5229-5236.	2.2	36
10	Intermediary phases formation in Feâ€“Alâ€“Si alloys during reactive sintering. Journal of Alloys and Compounds, 2010, 497, 90-94.	2.8	32
11	Powder metallurgy preparation of Alâ€“Cuâ€“Fe quasicrystals using mechanical alloying and Spark Plasma Sintering. Intermetallics, 2014, 52, 131-137.	1.8	27
12	High-Pressure Spark Plasma Sintering (HP SPS): A Promising and Reliable Method for Preparing Tiâ€“Alâ€“Si Alloys. Materials, 2017, 10, 465.	1.3	27
13	Synthesis of Intermetallics in Fe-Al-Si System by Mechanical Alloying. Metals, 2019, 9, 20.	1.0	26
14	The effect of microstructure on hydrogen permeability of high strength steels. Materials and Corrosion - Werkstoffe Und Korrosion, 2020, 71, 909-917.	0.8	26
15	Effect of reactive sintering conditions on microstructure of Feâ€“Alâ€“Si alloys. Journal of Alloys and Compounds, 2010, 493, 81-86.	2.8	25
16	Oxidation Behavior of Feâ€“Al, Feâ€“Si and Feâ€“Alâ€“Si Intermetallics. Materials, 2019, 12, 1748.	1.3	24
17	Structure and Mechanical Properties of Al-Cu-Fe-X Alloys with Excellent Thermal Stability. Materials, 2017, 10, 1269.	1.3	23
18	Microstructure characterization of rapidly solidified Alâ€“Feâ€“Crâ€“Ce alloy by positron annihilation spectroscopy. Journal of Alloys and Compounds, 2011, 509, 3211-3218.	2.8	22

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19	Kinetic and thermodynamic description of intermediary phases formation in Ti-Al system during reactive sintering. Materials Chemistry and Physics, 2019, 230, 122-130.	2.0	22
20	Structure and properties of Tiâ€“Alâ€“Si-X alloys produced by SHS method. Intermetallics, 2013, 39, 11-19.	1.8	21
21	Microstructure and mechanical properties of Alâ€“Siâ€“Feâ€“X alloys. Materials and Design, 2016, 107, 491-502.	3.3	21
22	High-temperature behaviour of Tiâ€“Alâ€“Si alloys produced by reactive sintering. Journal of Alloys and Compounds, 2010, 504, 320-324.	2.8	20
23	Effect of Particle Size of Titanium and Nickel on the Synthesis of NiTi by TE-SHS. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2016, 47, 932-938.	1.0	18
24	Development of TiAlâ€“Si Alloysâ€"A Review. Materials, 2021, 14, 1030.	1.3	18
25	Cavitation-Dispersion Method for Copper Cementation from Wastewater by Iron Powder. Metals, 2018, 8, 920.	1.0	17
26	Properties Comparison of Ti-Al-Si Alloys Produced by Various Metallurgy Methods. Materials, 2019, 12, 3084.	1.3	17
27	Investigation of the Effect of Magnesium on the Microstructure and Mechanical Properties of NiTi Shape Memory Alloy Prepared by Self-Propagating High-Temperature Synthesis. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 3559-3569.	1.1	16
28	Structure and Properties of Feâ€“Alâ€“Si Alloy Prepared by Mechanical Alloying. Materials, 2019, 12, 2463.	1.3	16
29	Fabrication of Ni-Ti Alloy by Self-Propagating High-Temperature Synthesis and Spark Plasma Sintering Technique. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2017, 48, 772-778.	1.0	15
30	Preparation of TiAl15Si15 intermetallic alloy by mechanical alloying and the spark plasma sintering method. Powder Metallurgy, 2019, 62, 54-60.	0.9	14
31	Influence of Heat Treatment on Microstructure and Properties of NiTi46 Alloy Consolidated by Spark Plasma Sintering. Materials, 2019, 12, 4075.	1.3	14
32	Ni-Ti Alloys Produced by Powder Metallurgy. Manufacturing Technology, 2015, 15, 689-694.	0.2	14
33	Duplex surface treatment of the Nb-alloyed PM tool steel. Surface and Coatings Technology, 2006, 201, 3342-3349.	2.2	13
34	Mechanism and kinetics of the intermediary phase formation in Tiâ€“Al and Tiâ€“Alâ€“Si systems during reactive sintering. International Journal of Materials Research, 2009, 100, 353-355.	0.1	13
35	Structure and magnetic properties of nickel nanoparticles prepared by selective leaching. Materials Letters, 2014, 137, 221-224.	1.3	13
36	Finding the energy source for self-propagating high-temperature synthesis production of NiTi shape memory alloy. Materials Chemistry and Physics, 2016, 181, 295-300.	2.0	13

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37	Titania sol-gel coatings containing silver on newly developed TiSi alloys and their antibacterial effect. Materials Science and Engineering C, 2017, 76, 25-30.	3.8	13
38	Advanced Powder Metallurgy Technologies. Materials, 2020, 13, 1742.	1.3	12
39	Formation of Phases in Reactively Sintered TiAl3 Alloy. Molecules, 2020, 25, 1912.	1.7	11
40	Structure and Properties of Alloys Obtained by Aluminothermic Reduction of Deep-Sea Nodules. Materials, 2021, 14, 561.	1.3	11
41	Effect of alloying elements on the properties of Ti-Al-Si alloys prepared by powder metallurgy. Journal of Alloys and Compounds, 2021, 868, 159251.	2.8	11
42	Preparation of Ti-Al-Si Alloys by Powder Metallurgy. Manufacturing Technology, 2016, 16, 1274-1278.	0.2	11
43	The Effect of Simultaneous Si and Ti/Mo Alloying on High-Temperature Strength of Fe3Al-Based Iron Aluminides. Molecules, 2020, 25, 4268.	1.7	9
44	Porous magnesium alloys prepared by powder metallurgy. Materiali in Tehnologije, 2016, 50, 917-922.	0.3	9
45	Powder-metallurgy preparation of NiTi shape-memory alloy using mechanical alloying and spark-plasma sintering. Materiali in Tehnologije, 2017, 51, 141-144.	0.3	9
46	Selective aluminum dissolution as a means to observe the microstructure of nanocrystalline intermetallic phases from Alâ€"Feâ€"Crâ€"Tiâ€"Ce rapidly solidified alloy. Micron, 2013, 45, 55-58.	1.1	8
47	Effect of Alloying Elements on the Reactive Sintering Behaviour of NiTi Alloy. Materials Science Forum, 0, 891, 447-451.	0.3	8
48	The Influence of Milling and Spark Plasma Sintering on the Microstructure and Properties of the Al7075 Alloy. Materials, 2018, 11, 547.	1.3	8
49	On the Structural and Chemical Homogeneity of Spark Plasma Sintered Tungsten. Metals, 2019, 9, 879.	1.0	8
50	Intermetallics - Synthesis, Production, Properties. Manufacturing Technology, 2015, 15, 1024-1028.	0.2	8
51	Precipitation in the Fe-38Âat.% Al-1Âat.% C alloy. Intermetallics, 2010, 18, 1327-1331.	1.8	7
52	Effect of Alloying Elements on Microstructure and Properties of Fe-Al and Fe-Al-Si Alloys Produced by Reactive Sintering. Key Engineering Materials, 0, 465, 407-410.	0.4	7
53	Microstructure Evolution of Fe-Al-Si and Ti-Al-Si Alloys during High-Temperature Oxidation. Materials Science Forum, 0, 782, 353-358.	0.3	7
54	Structure determination of a new phase Ni 8 Ti 5 by electron diffraction tomography. Intermetallics, 2017, 85, 110-116.	1.8	7

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55	Thermal analysis of FeAl intermetallic compound sintered at heating rate of 300ÂÂ°C/min. Journal of Alloys and Compounds, 2020, 819, 152978.	2.8	7
56	Using of Microscopy in Optimization of the Ti-Al-Si Alloys Preparation by Powder Metallurgy. Manufacturing Technology, 2016, 16, 946-949.	0.2	7
57	Microstructure, Mechanical Properties, and Thermal Stability of Carbon-Free High Speed Tool Steel Strengthened by Intermetallics Compared to Vanadis 60 Steel Strengthened by Carbides. Metals, 2021, 11, 1901.	1.0	7
58	Reactive Sintering Mechanism and Phase Formation in Ni-Ti-Al Powder Mixture During Heating. Materials, 2018, 11, 689.	1.3	6
59	Mechanism of the Intermediary Phase Formation in Ti-20 wt. % Al Mixture during Pressureless Reactive Sintering. Materials, 2019, 12, 2171.	1.3	6
60	Aluminum Alloys with the Addition of Reduced Deep-Sea Nodules. Metals, 2021, 11, 421.	1.0	6
61	A comprehensive description of reactions between nickel and aluminum powders during reactive sintering. Materials Chemistry and Physics, 2021, 271, 124941.	2.0	6
62	The Optimization of Sintering Conditions for the Preparation of Ti-Al-Si Alloys. Manufacturing Technology, 2017, 17, 483-488.	0.2	6
63	Pulsed-plasma nitriding of a niobiumâ€"alloyed PM tool steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 393, 286-293.	2.6	5
64	Mechanism and Kinetics of Plasma Nitriding of the Nb-Alloyed PM Tool Steel. Defect and Diffusion Forum, 2007, 263, 87-92.	0.4	5
65	Structure and mechanical properties of an AlCr6Fe2Ti1 alloy produced by rapid solidification powder metallurgy method. International Journal of Materials Research, 2010, 101, 307-309.	0.1	5
66	Nanocrystalline Al7075 + 1 wt % Zr Alloy Prepared Using Mechanical Milling and Spark Plasma Sintering. Materials, 2017, 10, 1105.	1.3	5
67	Application of SPS consolidation and its influence on the properties of the FeAl20Si20 alloys prepared by mechanical alloying. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 761, 138020.	2.6	5
68	Effect of Si Addition on Martensitic Transformation and Microstructure of NiTiSi Shape Memory Alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2020, 51, 4434-4438.	1.1	5
69	Effect of Nickel and Titanium on Properties of Fe-Al-Si Alloy Prepared by Mechanical Alloying and Spark Plasma Sintering. Materials, 2020, 13, 800.	1.3	5
70	Solutions of Critical Raw Materials Issues Regarding Iron-Based Alloys. Materials, 2021, 14, 899.	1.3	5
71	Corrosion Properties of Mn-Based Alloys Obtained by Aluminothermic Reduction of Deep-Sea Nodules. Materials, 2021, 14, 5211.	1.3	5
72	NiAl intermetallic prepared with reactive sintering and subsequent powder-metallurgical plasma-sintering compaction. Materiali in Tehnologije, 2016, 50, 447-450.	0.3	5

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73	The Effect of Production Process on Properties of FeAl20Si20. Manufacturing Technology, 2018, 18, 295-298.	0.2	5
74	Microstructure and Mechanical Properties of Rapidly Solidified Al-Fe-X Alloys. Key Engineering Materials, 0, 592-593, 639-642.	0.4	4
75	Intermetallics as innovative CRM-free materials. IOP Conference Series: Materials Science and Engineering, 2018, 329, 012013.	0.3	4
76	Identification of Carbides in Tool Steel by Selective Etching. Defect and Diffusion Forum, 2019, 395, 55-63.	0.4	4
77	Critical Assessment of Techniques for the Description of the Phase Composition of Advanced High-Strength Steels. Materials, 2019, 12, 4033.	1.3	4
78	Microstructural, Mechanical, Corrosion and Cytotoxicity Characterization of Porous Ti-Si Alloys with Pore-Forming Agent. Materials, 2020, 13, 5607.	1.3	4
79	Structure and Properties of Magnesium-Based Hydrogen Storage Alloys. Materials Science Forum, 2008, 567-568, 217-220.	0.3	3
80	Kinetic and Thermodynamic Aspects of High-Temperature Oxidation of Selected Ti-Based Alloys. Defect and Diffusion Forum, 2007, 263, 123-128.	0.4	3
81	Structure of Rapidly Solidified Al-Fe-Cr-Ce Alloy. Key Engineering Materials, 0, 465, 199-202.	0.4	3
82	Innovative Technology for Preparation of Seamless Nitinol Tubes Using SHS Without Forming. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 1524-1527.	1.1	3
83	Structural characterization of semi-heusler/light metal composites prepared by spark plasma sintering. Scientific Reports, 2018, 8, 11133.	1.6	3
84	Rapidly Solidified Aluminium Alloy Composite with Nickel Prepared by Powder Metallurgy: Microstructure and Self-Healing Behaviour. Materials, 2019, 12, 4193.	1.3	3
85	Structure and Properties of Cast Ti-Al-Si Alloys. Materials, 2021, 14, 813.	1.3	3
86	Mechanical properties of FeAlSi powders prepared by mechanical alloying from different initial feedstock materials. Materiaux Et Techniques, 2019, 107, 207.	0.3	3
87	EFFECT OF ALLOYING ELEMENTS ON PROPERTIES OF PM Ti-Al-Si ALLOYS. Acta Metallurgica Slovaca, 2013, 19, 240-246.	0.3	3
88	MICROSTRUCTURE AND THERMAL STABILITY OF Al-Fe-X ALLOYS. Acta Metallurgica Slovaca, 2018, 24, 223-228.	0.3	3
89	Influence of Thermal Treatment on Microstructure and Hardness of Niobium Alloyed PMâ€Tool Steel. Instrumentation Science and Technology, 2004, 32, 207-219.	0.9	2
90	On the Formation of AlNiCo Nano-Quasicrystalline Phase during Mechanical Alloying through Electroless Ni-P Plating of Starting Particles. Materials, 2019, 12, 2294.	1.3	2

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91	Effect of Initial Powders on Properties of FeAlSi Intermetallics. Materials, 2019, 12, 2846.	1.3	2
92	PREPARATION OF TiAl15Si15 ALLOY BY HIGH PRESSURE SPARK PLASMA SINTERING. Acta Metallurgica Slovaca, 2018, 24, 174-180.	0.3	2
93	Possibilities of a Direct Synthesis of Aluminum Alloys with Elements from Deep-Sea Nodules. Materials, 2022, 15, 4467.	1.3	2
94	Ternary Fe-Al-Si Alloys Prepared by Mechanical Alloying and Spark Plasma Sintering. Microscopy and Microanalysis, 2019, 25, 2618-2619.	0.2	1
95	Metallographic Determination of Strain Distribution in Cold Extruded Aluminum Gear-Like Element. Metals, 2020, 10, 589.	1.0	1
96	Novel High-Entropy Aluminide-Silicide Alloy. Materials, 2021, 14, 3541.	1.3	1
97	PROPERTIES OF Ni-Ti-X SHAPE MEMORY ALLOYS PRODUCED BY ARC RE-MELTING. Acta Metallurgica Slovaca, 2017, 23, 141-146.	0.3	1
98	The preferential formation of Ni2Al3, Fe2Al5, and Ti2Al5 phases in aluminide systems. Materials Chemistry and Physics, 2022, 280, 125859.	2.0	1
99	Electrochemical Hydriding of Mg-Based Alloys. Defect and Diffusion Forum, 0, 312-315, 882-887.	0.4	0
100	Detection of pH Increase at the Surface of Cathodically Polarized Metal by Means of Amphoteric Metals Activation. Materials Science Forum, 0, 844, 55-58.	0.3	0
101	PHASE FORMATION IN NiTiAl10 POWDER MIXTURE DURING HEATING TO 1100 Â°C. Acta Metallurgica Slovaca, 2018, 24, 181-186.	0.3	0
102	FRACTURE BEHAVIOR OF FeAlSi INTERMETALLICS. Acta Polytechnica CTU Proceedings, 0, 27, 6-12.	0.3	0
103	Fe-Al-Si Alloys for Applications in Internal Combustion Engines. Defect and Diffusion Forum, 0, 403, 57-65.	0.4	0
104	Sintering Problems during Preparation of Ti-Al-Si Alloys. Defect and Diffusion Forum, 0, 403, 37-45.	0.4	0