Jaroslav ÄŒapek

List of Publications by Year
in descending order

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56 papers	1,307 citations	393982 19 h-index	360668 35 g-index
59 all docs	59 docs citations	59 times ranked	1304 citing authors

#	Article	IF	Citations
1	Highly porous, low elastic modulus 316L stainless steel scaffold prepared by selective laser melting. Materials Science and Engineering C, 2016, 69, 631-639.	3.8	148
2	Properties of porous magnesium prepared by powder metallurgy. Materials Science and Engineering C, 2013, 33, 564-569.	3.8	96
3	Effect of sintering conditions on the microstructural and mechanical characteristics of porous magnesium materials prepared by powder metallurgy. Materials Science and Engineering C, 2014, 35, 21-28.	3.8	66
4	Microstructural and mechanical properties of biodegradable iron foam prepared by powder metallurgy. Materials and Design, 2015, 83, 468-482.	3.3	65
5	Microstructural, mechanical, corrosion and cytotoxicity characterization of the hot forged FeMn30(wt.%) alloy. Materials Science and Engineering C, 2016, 58, 900-908.	3.8	59
6	High-strength ultrafine-grained CoCrFeNiNb high-entropy alloy prepared by mechanical alloying: Properties and strengthening mechanism. Journal of Alloys and Compounds, 2020, 835, 155308.	2.8	56
7	A novel high-strength and highly corrosive biodegradable Fe-Pd alloy: Structural, mechanical and in vitro corrosion and cytotoxicity study. Materials Science and Engineering C, 2017, 79, 550-562.	3.8	55
8	Microstructural and mechanical characteristics of porous iron prepared by powder metallurgy. Materials Science and Engineering C, 2014, 43, 494-501.	3.8	53
9	Effect of SHS conditions on microstructure of NiTi shape memory alloy. Intermetallics, 2013, 42, 85-91.	1.8	52
10	Properties of a high-strength ultrafine-grained CoCrFeNiMn high-entropy alloy prepared by short-term mechanical alloying and spark plasma sintering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 734, 341-352.	2.6	52
11	Preparation and characterization of porous zinc prepared by spark plasma sintering as a material for biodegradable scaffolds. Materials Chemistry and Physics, 2018, 203, 249-258.	2.0	46
12	Microstructure, mechanical and corrosion properties of biodegradable powder metallurgical Fe-2 wt% X (XÂ=ÂPd, Ag and C) alloys. Materials Chemistry and Physics, 2016, 181, 501-511.	2.0	42
13	Formation of Niâ€“Ti intermetallics during reactive sintering at 500â€“650ÂÂ°C. Materials Chemistry and Physics, 2015, 155, 113-121.	2.0	41
14	Structural and mechanical characteristics of Mgâ€“4Zn and Mgâ€“4Znâ€“0.4Ca alloys after different thermal and mechanical processing routes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 586, 284-291.	2.6	36
15	Comparative mechanical and corrosion studies on magnesium, zinc and iron alloys as biodegradable metals. Materiali in Tehnologije, 2015, 49, 877-882.	0.3	34
16	Selective laser melting of pure iron: Multiscale characterization of hierarchical microstructure. Materials Characterization, 2019, 154, 222-232.	1.9	30
17	Extrusion of the biodegradable ZnMg0.8Ca0.2 alloy â€“ The influence of extrusion parameters on microstructure and mechanical characteristics. Journal of the Mechanical Behavior of Biomedical Materials, 2020, 108, 103796.	1.5	26
18	Microstructural, mechanical, in vitro corrosion and biological characterization of an extruded Zn-0.8Mg-0.2Sr (wt%) as an absorbable material. Materials Science and Engineering C, 2021, 122, 111924.	3.8	24

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19	ZnMg0.8Ca0.2 (wt%) biodegradable alloy â€“ The influence of thermal treatment and extrusion on microstructural and mechanical characteristics. Materials Characterization, 2020, 162, 110230.	1.9	21
20	Zn-Mg Biodegradable Composite: Novel Material with Tailored Mechanical and Corrosion Properties. Materials, 2019, 12, 3930.	1.3	20
21	Influence of model environment complexity on corrosion mechanism of biodegradable zinc alloys. Corrosion Science, 2021, 187, 109520.	3.0	20
22	Evidence for spin-glass ground state in fluorite-defect <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">E</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">Z</mml:mi><mml:msub><mml:mi mathvariant="normal">r</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:msub><mml:mi	1.1	19
23	Microstructure evolution and mechanical performance of ternary Zn-0.8Mg-0.2Sr (wt. %) alloy processed by equal-channel angular pressing. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 824, 141809.	2.6	17
24	Effect of crystal quality on twinning stress in Niâ€“Mnâ€“Ga magnetic shape memory alloys. Journal of Materials Research and Technology, 2021, 14, 1934-1944.	2.6	17
25	Structural and mechanical stability of the nano-crystalline Niâ€“Ti (50.9Âat.% Ni) shape memory alloy during short-term heat treatments. Intermetallics, 2014, 49, 7-13.	1.8	16
26	Characterization of Newly Developed Zinc Composite with the Content of 8 wt.% of Hydroxyapatite Particles Processed by Extrusion. Materials, 2020, 13, 1716.	1.3	16
27	Characterization of a Zn-Ca5(PO4)3(OH) Composite with a High Content of the Hydroxyapatite Particles Prepared by the Spark Plasma Sintering Process. Metals, 2020, 10, 372.	1.0	15
28	The evolution of microstructure and mechanical properties of Zn-0.8Mg-0.2Sr alloy prepared by casting and extrusion. Journal of Alloys and Compounds, 2022, 906, 164308.	2.8	14
29	Thermal Plasma Spraying as a New Approach for Preparation of Zinc Biodegradable Scaffolds: A Complex Material Characterization. Journal of Thermal Spray Technology, 2019, 28, 826-841.	1.6	13
30	Powder Metallurgical Techniques for Fabrication of Biomaterials. Manufacturing Technology, 2015, 15, 964-969.	0.2	13
31	3D printed porous stainless steel for potential use in medicine. IOP Conference Series: Materials Science and Engineering, 2017, 179, 012025.	0.3	12
32	Znâ€“0.8Mgâ€“0.2Sr (wt.%) Absorbable Screwsâ€”An In-Vivo Biocompatibility and Degradation Pilot Study on a Rabbit Model. Materials, 2021, 14, 3271.	1.3	10
33	Iron removal from zinc liquors originating from hydrometallurgical processing of spent Zn/MnO2 batteries. Hydrometallurgy, 2013, 138, 100-105.	1.8	9
34	Crack growth in Fe-Si (2â€¯wt%) single crystals on macroscopic and atomistic level. Results in Physics, 2019, 14, 102450.	2.0	9
35	Preparation and Characterization of NiTi Shape Memory Alloy Preparedby Powder Metallurgy. Manufacturing Technology, 2014, 14, 342-347.	0.2	9
36	Influence of Ceramic Particles Character on Resulted Properties of Zinc-Hydroxyapatite/Monetite Composites. Metals, 2021, 11, 499.	1.0	7

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37	Properties of Biodegradable Alloys Usable for Medical Purposes. Acta Physica Polonica A, 2012, 122, 520-523.	0.2	7
38	A Complex Evaluation of the In-Vivo Biocompatibility and Degradation of an Extruded ZnMgSr Absorbable Alloy Implanted into Rabbit Bones for 360 Days. International Journal of Molecular Sciences, 2021, 22, 13444.	1.8	7
39	Corrosion and Mechanical Behavior of Biodegradable Metallic Biomaterials. Solid State Phenomena, 0, 227, 431-434.	0.3	5
40	Selective laser melting of iron: Multiscale characterization of mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 800, 140316.	2.6	5
41	Laser shock peening of copper poly- and single crystals. Materials Characterization, 2021, 174, 111037.	1.9	5
42	Porous Magnesium for Medical Applications - Influence of Powder Size on Mechanical Properties. Key Engineering Materials, 0, 592-593, 342-345.	0.4	4
43	Secondary twinning in zinc. Philosophical Magazine Letters, 2018, 98, 437-445.	0.5	4
44	Influence of the pre-exposure of a Zn-0.8Mg-0.2Sr absorbable alloy in bovine serum albumin containing media on its surface changes and their impact on the cytocompatibility of the material. Materials Today Communications, 2021, 28, 102556.	0.9	4
45	Anisotropy of fracture in hexagonal metals. International Journal of Fracture, 2020, 225, 123-127.	1.1	4
46	ZnMg0.8Ca/Sr0.2 ternary alloys â€" the influence of the third element on material properties. Procedia Structural Integrity, 2019, 23, 3-8.	0.3	3
47	Influence of the Microstructure of the Initial Material on the Zn Wires Prepared by Direct Extrusion with a Huge Extrusion Ratio. Metals, 2021, 11, 787.	1.0	3
48	Influence of Processing on the Microstructure and the Mechanical Properties of Zn/HA8 wt.% Biodegradable Composite. Manufacturing Technology, 2019, 19, 836-841.	0.2	3
49	Preparation of Magnesium-zinc Alloy by Mechanical Alloying. Manufacturing Technology, 2014, 14, 304-309.	0.2	3
50	High Entropy Alloys Prepared by Combination of Mechanical Alloying and Spark Plasma Sintering. Manufacturing Technology, 2016, 16, 1350-1354.	0.2	3
51	Microstructural characterization and optimization of the ZnMg0.8(CaO)0.26 alloy processed by ball milling and subsequent extrusion. Manufacturing Technology, 2020, 20, 484-491.	0.2	3
52	Biodegradable Metallic Materials for Temporary Medical Implants. Materials Science Forum, 2017, 891, 395-399.	0.3	2
53	Microstructural Evolution of a 3003 Based Aluminium Alloy during the CSET Process. Materials, 2021, 14, 5770.	1.3	2
54	Anisotropy of Plastic Deformation in Hexagonal Metals. Materials Science Forum, 0, 1016, 1091-1096.	0.3	1

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55	Novel Trends in the Development of Metallic Materials for Medical Implants. Key Engineering Materials, 0, 647, 59-65.	0.4	0
56	The Role of Mandrel Rotation during CSET Processing Demonstrated on a 3003 Aluminium Alloy. Metals, 2022, 12, 398.	1.0	0