Jiri Matejicek

List of Publications by Year
in descending order

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127 papers	4,026 citations	186265 28 h-index	128289 60 g-index
128 all docs	128 docs citations	128 times ranked	2868 citing authors

#	Article	IF	Citations
1	Overview of the COMPASS results [*]. Nuclear Fusion, 2022, 62, 042021.	3.5	7
2	Plastic deformation in advanced tungsten-based alloys for fusion applications studied by mechanical testing and TEM. International Journal of Refractory Metals and Hard Materials, 2021, 95, 105409.	3.8	13
3	Tailoring the structure of RF-ICP tungsten coatings. Surface and Coatings Technology, 2021, 406, 126745.	4.8	5
4	Tungsten-steel composites and FGMs prepared by argon-shrouded plasma spraying. Surface and Coatings Technology, 2021, 406, 126746.	4.8	20
5	W + Cu and W + Ni Composites and FGMs Prepared by Plasma Transferred Arc Cladding. Materials, 2021, 14, 789.	2.9	3
6	Evolution of carbon and oxygen concentration in tungsten prepared by field assisted sintering and its effect on ductility. International Journal of Refractory Metals and Hard Materials, 2021, 97, 105499.	3.8	7
7	Advanced Self-Passivating Alloys for an Application under Extreme Conditions. Metals, 2021, 11, 1255.	2.3	12
8	Irradiation-induced hardening in fusion relevant tungsten grades with different initial microstructures. Physica Scripta, 2021, 96, 124021.	2.5	3
9	Manufacturing of W-steel joint using plasma sprayed graded W/steel-interlayer with current assisted diffusion bonding. Fusion Engineering and Design, 2021, 172, 112896.	1.9	7
10	Radiation damage evolution in pure W and W-Cr-Hf alloy caused by 5ÂMeV Au ions in a broad range of dpa. Nuclear Materials and Energy, 2021, 29, 101085.	1.3	3
11	Preparation of W-Cu composites by infiltration of W skeletons â€“ review. , 2021, , .		0
12	Spark plasma sintered tungsten â€“ mechanical properties, irradiation effects and thermal shock performance. Journal of Nuclear Materials, 2020, 542, 152518.	2.7	16
13	An ultrasonic study of relaxation processes in pure and mechanically alloyed tungsten. International Journal of Refractory Metals and Hard Materials, 2020, 90, 105233.	3.8	1
14	Phase, Composition and Structure Changes of CoCrNi-Based Concentrated Alloys Resulting from High Temperature Oxidation. Materials, 2020, 13, 2276.	2.9	5
15	Overview of challenges and developments in joining tungsten and steel for future fusion reactors. Physica Scripta, 2020, T171, 014028.	2.5	28
16	Assessment of mechanical properties of SPS-produced tungsten including effect of neutron irradiation. International Journal of Refractory Metals and Hard Materials, 2020, 89, 105207.	3.8	24
17	On the Structural and Chemical Homogeneity of Spark Plasma Sintered Tungsten. Metals, 2019, 9, 879.	2.3	8
18	Fatigue Behaviour and Crack Initiation in CoCrFeNiMn High-Entropy Alloy Processed by Powder Metallurgy. Metals, 2019, 9, 1110.	2.3	22

#	ARTICLE	IF	CITATIONS
19	Thermal and Oxidation Behavior of CoCrFeMnNi Alloy with and Without Yttrium Oxide Particle Dispersion. Journal of Materials Engineering and Performance, 2019, 28, 5850-5859.	2.5	14
20	The Role of Laser Texturing in Improving the Adhesion of Plasma Sprayed Tungsten Coatings. Journal of Thermal Spray Technology, 2019, 28, 1346-1362.	3.1	12
21	Atmospheric plasma spraying of functionally graded steel/tungsten layers for the first wall of future fusion reactors. Surface and Coatings Technology, 2019, 366, 170-178.	4.8	44
22	Characterization of less common nitrides as potential permeation barriers. Fusion Engineering and Design, 2019, 139, 74-80.	1.9	13
23	Materials and processing factors influencing stress evolution and mechanical properties of plasma sprayed coatings. Surface and Coatings Technology, 2019, 371, 3-13.	4.8	8
24	Statistical treatment of grid indentation considering the effect of the interface and the microstructural length scale. Mechanics of Materials, 2019, 129, 99-103.	3.2	5
25	Controlling the carbide formation and chromium depletion in W-Cr alloy during field assisted sintering. International Journal of Refractory Metals and Hard Materials, 2019, 79, 217-223.	3.8	9
26	Tensile properties of baseline and advanced tungsten grades for fusion applications. International Journal of Refractory Metals and Hard Materials, 2018, 75, 153-162.	3.8	61
27	Nano-hardness, EBSD analysis and mechanical behavior of ultra-fine grain tungsten for fusion applications as plasma facing material. Surface and Coatings Technology, 2018, 355, 252-258.	4.8	9
28	Microstructure and phase stability of W-Cr alloy prepared by spark plasma sintering. Fusion Engineering and Design, 2018, 127, 173-178.	1.9	28
29	THIN NITRIDE LAYERS AS PERMEATION BARRIERS. Acta Polytechnica CTU Proceedings, 2018, 17, 24.	0.3	1
30	Medicine Meets Thermal Spray Technology: A Review of Patents. Journal of Thermal Spray Technology, 2018, 27, 1251-1279.	3.1	30
31	Response of fusion plasma-facing materials to nanosecond pulses of extreme ultraviolet radiation. Laser and Particle Beams, 2018, 36, 293-307.	1.0	3
32	Heat loads on poloidal and toroidal edges of castellated plasma-facing components in COMPASS. Nuclear Fusion, 2018, 58, 066003.	3.5	11
33	Compressive creep behavior of an oxide-dispersion-strengthened CoCrFeMnNi high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 732, 99-104.	5.6	42
34	Aiming at understanding thermo-mechanical loads in the first wall of DEMO: Stressâ€“strain evolution in a Eurofer-tungsten test component featuring a functionally graded interlayer. Fusion Engineering and Design, 2018, 135, 141-153.	1.9	28
35	On the relation between microstructure and elastic constants of tungsten/steel composites fabricated by spark plasma sintering. Fusion Engineering and Design, 2018, 133, 51-58.	1.9	12
36	Tungsten dust remobilization under steady-state and transient plasma conditions. Nuclear Materials and Energy, 2017, 12, 569-574.	1.3	20

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37	Ablation-erosion analyses of various fusion material surfaces and developments of surface erosion monitors for notification of fusion chamber maintenance times, as an example: Visible light transparent SiC and up-conversion phosphors applied to plasma facing surface structures, useful for versatile purposes to protect and diagnose fusion chambers and so on. , 2017, , .		0
38	Oxide dispersion strengthened CoCrFeNiMn high-entropy alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 689, 252-256.	5.6	138
39	Dust remobilization experiments on the COMPASS tokamak. Fusion Engineering and Design, 2017, 124, 446-449.	1.9	2
40	Fracture behaviour of the 14Cr ODS steel exposed to helium and liquid lead. Journal of Nuclear Materials, 2017, 490, 143-154.	2.7	2
41	Microstructural stability of spark-plasma-sintered W f /W composite with zirconia interface coating under high-heat-flux hydrogen beam irradiation. Nuclear Materials and Energy, 2017, 13, 74-80.	1.3	4
42	Interaction of candidate plasma facing materials with tokamak plasma in COMPASS. Journal of Nuclear Materials, 2017, 493, 102-119.	2.7	5
43	ELM-induced arcing on tungsten fuzz in the COMPASS divertor region. Journal of Nuclear Materials, 2017, 492, 204-212.	2.7	14
44	The influence of substrate temperature and spraying distance on the properties of plasma sprayed tungsten and steel coatings deposited in a shrouding chamber. Surface and Coatings Technology, 2017, 318, 217-223.	4.8	19
45	Approche statistique pour identifier les propriÃ©tÃ©s mÃ©caniques des phases individuelles Ã partir de donnÃ©es dâ€™indentation. Materiaux Et Techniques, 2017, 105, 105.	0.9	3
46	Resuts of interaction of XUV laser pulses of nanosecond duration with difficult-ablated-materials. , 2016, , .		0
47	Plasma interaction with tungsten samples in the COMPASS tokamak in ohmic ELMy H-modes. Journal of Physics: Conference Series, 2016, 700, 012008.	0.4	5
48	The 2016 Thermal Spray Roadmap. Journal of Thermal Spray Technology, 2016, 25, 1376-1440.	3.1	243
49	Interaction of powerful hot plasma and fast ion streams with materials in dense plasma focus devices. Fusion Engineering and Design, 2016, 113, 109-118.	1.9	10
50	Determination of the individual phase properties from the measured grid indentation data. Journal of Materials Research, 2016, 31, 3538-3548.	2.6	16
51	Behavior of W-based materials in hot helium gas. Nuclear Materials and Energy, 2016, 9, 405-410.	1.3	1
52	Laser re-melting of tungsten damaged by transient heat loads. Nuclear Materials and Energy, 2016, 9, 165-170.	1.3	10
53	Behavior and microstructural changes in different tungsten-based materials under pulsed plasma loading. Nuclear Materials and Energy, 2016, 9, 123-127.	1.3	4
54	Evaluation of surface, microstructure and phase modifications on various tungsten grades induced by pulsed plasma loading. Physica Scripta, 2016, 91, 034003.	2.5	9

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55	Elastic and Anelastic Behavior of TBCs Sprayed at High-Deposition Rates. Journal of Thermal Spray Technology, 2015, 24, 160.	3.1	7
56	Heat load and deuterium plasma effects on SPS and WSP tungsten. Nukleonika, 2015, 60, 275-283.	0.8	4
57	Wâ€“steel and Wâ€“WCâ€“steel composites and FGMs produced by hot pressing. Fusion Engineering and Design, 2015, 100, 364-370.	1.9	16
58	Effect of high-flux H/He plasma exposure on tungsten damage due to transient heat loads. Journal of Nuclear Materials, 2015, 463, 198-201.	2.7	21
59	Overview of processing technologies for tungsten-steel composites and FGMs for fusion applications. Nukleonika, 2015, 60, 267-273.	0.8	30
60	The influence of substrate temperature on properties of APS and VPS W coatings. Surface and Coatings Technology, 2015, 268, 7-14.	4.8	17
61	The occurrence and damage of unipolar arcing on fuzzy tungsten. Journal of Nuclear Materials, 2015, 463, 303-307.	2.7	27
62	Mechanical and Thermal Properties of Individual Phases Formed in Sintered Tungsten-Steel Composites. Acta Physica Polonica A, 2015, 128, 718-721.	0.5	12
63	On the precision of absolute sensitivity calibration and specifics of spectroscopic quantities interpretation in tokamaks. Applied Optics, 2014, 53, 8123.	2.1	1
64	ELM-induced melting: assessment of shallow melt layer damage and the power handling capability of tungsten in a linear plasma device. Physica Scripta, 2014, T159, 014022.	2.5	2
65	Laser Remelting of Plasma-Sprayed Tungsten Coatings. Journal of Thermal Spray Technology, 2014, 23, 750-754.	3.1	11
66	The influence of plasma sprayed multilayers of Cr2O3 and Ni10wt%Al on fatigue resistance. Surface and Coatings Technology, 2014, 251, 143-150.	4.8	9
67	A contribution to understanding the results of instrumented indentation on thermal spray coatings â€” Case study on Al2O3 and stainless steel. Surface and Coatings Technology, 2014, 240, 243-249.	4.8	25
68	The effect of high-flux H plasma exposure with simultaneous transient heat loads on tungsten surface damage and power handling. Nuclear Fusion, 2014, 54, 123010.	3.5	49
69	Numerical Model of Instrumented Indentation by a Rounded Cone Indenter Using Finite Element Method. Key Engineering Materials, 2014, 606, 73-76.	0.4	2
70	Thermal Properties of Transparent Ybâ€Ðoped <scp>YAG</scp> Ceramics at Elevated Temperatures. Journal of the American Ceramic Society, 2014, 97, 2602-2606.	3.8	20
71	Fatigue Life of Layered Metallic and Ceramic Plasma Sprayed Coatings. , 2014, 3, 586-591.		7
72	The Role of Spraying Parameters and Inert Gas Shrouding in Hybrid Water-Argon Plasma Spraying of Tungsten and Copper for Nuclear Fusion Applications. Journal of Thermal Spray Technology, 2013, 22, 744-755.	3.1	25

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73	Multiple-Approach Evaluation of WSP Coatings Adhesion/Cohesion Strength. Journal of Thermal Spray Technology, 2013, 22, 221-232.	3.1	7
74	A brief summary of the progress on the EFDA tungsten materials program. Journal of Nuclear Materials, 2013, 442, S173-S180.	2.7	69
75	Application of resonant ultrasound spectroscopy to determine elastic constants of plasma-sprayed coatings with high internal friction. Surface and Coatings Technology, 2013, 232, 747-757.	4.8	18
76	Recent progress in research on tungsten materials for nuclear fusion applications in Europe. Journal of Nuclear Materials, 2013, 432, 482-500.	2.7	610
77	The Influence of Interface Characteristics on the Adhesion/Cohesion of Plasma Sprayed Tungsten Coatings. Coatings, 2013, 3, 108-125.	2.6	28
78	Porous alumina and zirconia ceramics with tailored thermal conductivity. Journal of Physics: Conference Series, 2012, 395, 012022.	0.4	18
79	Spraying of Metallic Powders by Hybrid Gas/Water Torch and the Effects of Inert Gas Shrouding. Journal of Thermal Spray Technology, 2012, 21, 695-705.	3.1	8
80	Application of Structure-Based Models of Mechanical and Thermal Properties on Plasma Sprayed Coatings. Journal of Thermal Spray Technology, 2012, 21, 372-382.	3.1	16
81	Effects of neutron irradiation on glass ceramics as pressure-less joining materials for SiC based components for nuclear applications. Journal of Nuclear Materials, 2012, 429, 166-172.	2.7	48
82	Thermal Conductivity of <scp><scp>Al₂O₃â€“ZrO₂</scp></scp> Composite Ceramics. Journal of the American Ceramic Society, 2011, 94, 4404-4409.	3.8	33
83	Plasma Spraying of Copper by Hybrid Water-Gas DC Arc Plasma Torch. Journal of Thermal Spray Technology, 2011, 20, 760-774.	3.1	11
84	Non-Linear Mechanical Behavior of Plasma Sprayed Alumina Under Mechanical and Thermal Loading. Journal of Thermal Spray Technology, 2010, 19, 422-428.	3.1	50
85	In-situ observation of crack propagation in thermally sprayed coatings. Surface and Coatings Technology, 2010, 205, 1807-1811.	4.8	21
86	Processing and temperature-dependent properties of plasma-sprayed tungstenâ€“stainless steel composites. Physica Scripta, 2009, T138, 014041.	2.5	17
87	Copper-Tungsten Composites Sprayed by HVOF. Journal of Thermal Spray Technology, 2008, 17, 177-180.	3.1	9
88	Thermal Spray Coatings for Fusion Applicationsâ€”Review. Journal of Thermal Spray Technology, 2007, 16, 64-83.	3.1	88
89	Microstructure, mechanical properties, and adhesion in IN625 air plasma sprayed coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 421, 77-85.	5.6	25
90	Impact of probing volume from different mechanical measurement methods on elastic properties of thermally sprayed Ni-based coatings on a mesoscopic scale. Surface and Coatings Technology, 2006, 200, 2805-2820.	4.8	32

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91	Selected Patents Related to Thermal Spraying. Journal of Thermal Spray Technology, 2006, 15, 169-171.	3.1	0
92	Selected Patents Related to Thermal Spraying. Journal of Thermal Spray Technology, 2006, 15, 317-319.	3.1	0
93	Selected Patents Related to Thermal Spraying. Journal of Thermal Spray Technology, 2006, 15, 473-477.	3.1	0
94	Alternative methods for determination of composition and porosity in abradable materials. Materials Characterization, 2006, 57, 17-29.	4.4	46
95	Plasma sprayed tungsten-based coatings and their performance under fusion relevant conditions. Fusion Engineering and Design, 2005, 75-79, 395-399.	1.9	33
96	The effect of the use of different electrode materials for edge-plasma biasing on plasma density and floating potential modifications. European Physical Journal D, 2005, 55, 1607-1614.	0.4	0
97	Role of thermal spray processing method on the microstructure, residual stress and properties of coatings: an integrated study for Niâ€“5 wt.%Al bond coats. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 364, 216-231.	5.6	244
98	Residual stresses in cold-coiled helical compression springs for automotive suspensions measured by neutron diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 367, 306-311.	5.6	17
99	Thermal and mechanical properties of cordierite, mullite and steatite produced by plasma spraying. Ceramics International, 2004, 30, 597-603.	4.8	85
100	Development of process maps for plasma spray: case study for molybdenum. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 348, 54-66.	5.6	85
101	In situ measurement of residual stresses and elastic moduli in thermal sprayed coatings. Acta Materialia, 2003, 51, 863-872.	7.9	169
102	In situ measurement of residual stresses and elastic moduli in thermal sprayed coatings. Acta Materialia, 2003, 51, 873-885.	7.9	124
103	Residual and Applied Stresses in Plasma Sprayed Cr₂O₃ Coatings. Materials Science Forum, 2002, 404-407, 419-424.	0.3	2
104	Residual stress in sprayed Ni+5%Al coatings determined by neutron diffraction. Applied Physics A: Materials Science and Processing, 2002, 74, s1692-s1694.	2.3	14
105	Stresses in plasma-sprayed Cr 2 O 3 coatings measured by neutron diffraction. Applied Physics A: Materials Science and Processing, 2002, 74, s1115-s1117.	2.3	2
106	Plasma sprayed coatings for RF wave absorption. Journal of Nuclear Materials, 2002, 307-311, 1334-1338.	2.7	11
107	Intrinsic residual stresses in single splats produced by thermal spray processes. Acta Materialia, 2001, 49, 1993-1999.	7.9	134
108	Modelling and Neutron Diffraction Measurement of Stresses in Sprayed TBCs. , 2000, , .		7

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109	Measurement of Residual Stress in Plasma-Sprayed Composite Coatings with Graded and Uniform Compositions. Materials Science Forum, 1999, 308-311, 389-395.	0.3	6
110	Quenching, thermal and residual stress in plasma sprayed deposits: NiCrAlY and YSZ coatings. Acta Materialia, 1999, 47, 607-617.	7.9	123
111	Substrate temperature effects on splat formation, microstructure development and properties of plasma sprayed coatings Part I: Case study for partially stabilized zirconia. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 272, 181-188.	5.6	171
112	Substrate temperature effects on the splat formation, microstructure development and properties of plasma sprayed coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 272, 189-198.	5.6	78
113	X-ray Residual Stress Measurement in Metallic and Ceramic Plasma Sprayed Coatings. Journal of Thermal Spray Technology, 1998, 7, 489-496.	3.1	68
114	Measurement of residual stress in plasma-sprayed metallic, ceramic and composite coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1998, 257, 215-224.	5.6	149
115	Processing Effects on Splat Formation, Microstructure and Quenching Stress in Plasma Sprayed Coatings. , 1998, , .		3
116	Methods of Increasing Thermal Conductivity of Plasma Sprayed Tungsten-Based Coatings. Advanced Materials Research, 0, 59, 82-86.	0.3	6
117	Through-Thickness Residual Stress Measurement by Neutron Diffraction in Cu+W Plasma Spray Coatings. Materials Science Forum, 0, 652, 50-56.	0.3	7
118	Development of Advanced Coatings for ITER and Future Fusion Devices. Advances in Science and Technology, 0, , .	0.2	4
119	Residual Stresses and Young's Moduli of Plasma Sprayed W+Cu Composites and FGMs Determined by <i>In Situ</i> Curvature Method. Key Engineering Materials, 0, 606, 151-154.	0.4	4
120	Effect of Boriding Time on Microstructure and Residual Stresses in Borided Highly Alloyed X210CR12 Steel. Key Engineering Materials, 0, 606, 27-30.	0.4	2
121	Influence of Preheating Temperature on the Quality of the Interface between Plasma Sprayed Coatings and Substrate. Key Engineering Materials, 0, 606, 183-186.	0.4	1
122	The Influence of Spraying Parameters on Stresses and Mechanical Properties of HVOF-Sprayed Co-Cr-W-C Coatings. Key Engineering Materials, 0, 606, 171-174.	0.4	4
123	Investigation of Indentation Parameters Near the Interface between Two Materials. Key Engineering Materials, 0, 662, 31-34.	0.4	5
124	Some Issues in Relations between Microstructure and Indentation Measurements. Solid State Phenomena, 0, 258, 131-136.	0.3	4
125	Effect of Neighboring Phase Properties on Measured Indentation Data. Defect and Diffusion Forum, 0, 368, 126-129.	0.4	0
126	Properties of Ultrafine-Grained Tungsten Prepared by Ball Milling and Spark Plasma Sintering. Applied Mechanics and Materials, 0, 821, 399-404.	0.2	2

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127	On the applicability of three and four parameter fits for analysis of swept embedded Langmuir probes in magnetised plasma. Nuclear Fusion, 0, , .	3.5	3