

Pavol Hvizdos

List of Publications by Year in descending order

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122
papers

1,857
citations

279798

23
h-index

302126

39
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128
all docs

128
docs citations

128
times ranked

1655
citing authors

#	ARTICLE	IF	CITATIONS
1	Fracture toughness and toughening mechanisms in graphene platelet reinforced Si ₃ N ₄ composites. Scripta Materialia, 2012, 66, 793-796.	5.2	191
2	Tribological properties of Si ₃ N ₄ -graphene nanocomposites. Journal of the European Ceramic Society, 2013, 33, 2359-2364.	5.7	125
3	Orientation-dependent hardness and nanoindentation-induced deformation mechanisms of WC crystals. Acta Materialia, 2015, 83, 397-407.	7.9	107
4	SiC/Si ₃ N ₄ nano/micro-composite processing, RT and HT mechanical properties. Journal of the European Ceramic Society, 2000, 20, 453-462.	5.7	82
5	Wear resistance of Al ₂ O ₃ -CNT ceramic nanocomposites at room and high temperatures. Ceramics International, 2013, 39, 5821-5826.	4.8	80
6	Nanoindentation of WC-Co hardmetals. Journal of the European Ceramic Society, 2013, 33, 2227-2232.	5.7	66
7	Ultrasonically generated pulsed water jet peening of austenitic stainless-steel surfaces. Journal of Manufacturing Processes, 2018, 32, 455-468.	5.9	66
8	Influence of hBN content on mechanical and tribological properties of Si ₃ N ₄ /BN ceramic composites. Journal of the European Ceramic Society, 2014, 34, 3319-3328.	5.7	60
9	Tribological and electrical properties of ceramic matrix composites with carbon nanotubes. Ceramics International, 2012, 38, 5669-5676.	4.8	52
10	Wear resistance of hot-pressed Si ₃ N ₄ /SiC micro/nanocomposites sintered with rare-earth oxide additives. Wear, 2010, 269, 867-874.	3.1	46
11	Wear damage of Si ₃ N ₄ -graphene nanocomposites at room and elevated temperatures. Journal of the European Ceramic Society, 2014, 34, 3309-3317.	5.7	42
12	Mechanical properties and thermal shock behaviour of an alumina/zirconia functionally graded material prepared by electrophoretic deposition. Journal of the European Ceramic Society, 2007, 27, 1365-1371.	5.7	36
13	Tribological behavior of carbon nanofiber-zirconia composite. Scripta Materialia, 2010, 63, 254-257.	5.2	34
14	Comparison of the influence of acoustically enhanced pulsating water jet on selected surface integrity characteristics of CW004A copper and CW614N brass. Measurement: Journal of the International Measurement Confederation, 2017, 110, 230-238.	5.0	34
15	Effect of brazing current on microstructure and mechanical behavior of WC-Co/AISI 1020 steel TIG brazed joint. International Journal of Refractory Metals and Hard Materials, 2017, 64, 210-218.	3.8	34
16	Effect of tantalum content on the microstructure and mechanical behavior of cermets based on (Ti _x Ta _{1-x})(Co _{0.5} Ni _{0.5}) solid solutions. Materials & Design, 2014, 53, 435-444.	5.1	33
17	Indentation fatigue of WC grains in WC-Co composite. Journal of the European Ceramic Society, 2014, 34, 3407-3412.	5.7	32
18	Indentation moduli and microhardness of RE-Si-Mg-O-N glasses (RE=Sc, Y, La, Sm, Yb and Lu) with different nitrogen content. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 357, 181-187.	5.6	30

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19	Surface integrity of Mg-based nanocomposite produced by Abrasive Water Jet Machining (AWJM). <i>Materials and Manufacturing Processes</i> , 2017, 32, 1707-1714.	4.7	28
20	Microstructure and mechanical behavior of dissimilar AISI 304L/WC-Co cermet rotary friction welds. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2019, 758, 36-46.	5.6	28
21	Creep behavior of a carbon-derived Si ₃ N ₄ /SiC nanocomposite. <i>Journal of the European Ceramic Society</i> , 2004, 24, 3307-3315.	5.7	26
22	Indentation fatigue of WC-Co cemented carbides. <i>International Journal of Refractory Metals and Hard Materials</i> , 2013, 41, 229-235.	3.8	26
23	Investigation of WC decarburization effect on the microstructure and wear behavior of WC-Ni hardfacing under dry and alkaline wet conditions. <i>Materials Chemistry and Physics</i> , 2018, 208, 237-247.	4.0	26
24	Mechanical properties of phases in Al-Al ₄ C ₃ mechanically alloyed material measured by depth sensing indentation technique. <i>Materials Letters</i> , 2005, 59, 1971-1975.	2.6	22
25	Enhanced Creep Resistant Silicon-Nitride-Based Nanocomposite. <i>Journal of the American Ceramic Society</i> , 2005, 88, 1500-1503.	3.8	20
26	Effect of substrate on microstructure and mechanical properties of sol-gel prepared (K, Na)NbO ₃ thin films. <i>Materials Science and Engineering B: Solid-State Materials for Advanced Technology</i> , 2013, 178, 254-262.	3.5	19
27	Indentation hardness and fatigue of the constituents of WC-Co composites. <i>International Journal of Refractory Metals and Hard Materials</i> , 2015, 49, 178-183.	3.8	19
28	Study of near surface changes in yttria-doped tetragonal zirconia after low temperature degradation. <i>International Journal of Materials Research</i> , 2009, 100, 92-96.	0.3	18
29	Small-Scale Mechanical Testing of Cemented Carbides from the Micro- to the Nano-Level: A Review. <i>Metals</i> , 2019, 9, 502.	2.3	18
30	Investigation of thin layers deposited by two PVD techniques on high speed steel produced by powder metallurgy. <i>Applied Surface Science</i> , 2012, 258, 5105-5110.	6.1	17
31	Influence of the frequency and flow rate of a pulsating water jet on the wear damage of tantalum. <i>Wear</i> , 2021, 477, 203893.	3.1	17
32	Preparation, friction, wear, and fracture of the Si ₃ N ₄ -Ag-GNPs composites prepared by SPS. <i>Journal of the European Ceramic Society</i> , 2020, 40, 4853-4859.	5.7	17
33	Wear Behavior of ZrO ₂ -CNF and Si ₃ N ₄ -CNT Nanocomposites. <i>Key Engineering Materials</i> , 0, 465, 495-498.	0.4	16
34	Mechanical, physical properties and tribological behaviour of silicon carbide composites with addition of carbon nanotubes. <i>International Journal of Refractory Metals and Hard Materials</i> , 2019, 81, 272-280.	3.8	16
35	Microstructure, fracture behaviour and mechanical properties of conductive alumina based composites manufactured by SPS from graphenated Al ₂ O ₃ powders. <i>Journal of the European Ceramic Society</i> , 2020, 40, 4818-4824.	5.7	16
36	Rotary friction welded C45 to 16NiCr6 steel rods: statistical optimization coupled to mechanical and microstructure approaches. <i>International Journal of Advanced Manufacturing Technology</i> , 2021, 116, 2285-2298.	3.0	15

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37	Effect of heat treatment on wear damage mechanisms in 3Y-TZP ceramics. <i>Wear</i> , 2010, 269, 26-30.	3.1	14
38	Effect of solvent on phase composition and particle morphology of lanthanum niobates prepared by polymeric complex sol-gel method. <i>Journal of Sol-Gel Science and Technology</i> , 2014, 69, 272-280.	2.4	13
39	Surface Integrity Evaluation of Brass CW614N after Impact of Acoustically Excited Pulsating Water Jet. <i>Procedia Engineering</i> , 2016, 149, 236-244.	1.2	13
40	Mechanical and electromechanical properties of PZT sol-gel thin films measured by nanoindentation. <i>Integrated Ferroelectrics</i> , 2001, 41, 53-62.	0.7	12
41	The effect of surface pre-treatment and coating post-treatment to the properties of TiN coatings. <i>Estonian Journal of Engineering</i> , 2012, 18, 185.	0.4	12
42	Structural properties and phase transformation of sol-gel prepared lanthanum tantalates. <i>Journal of Materials Science</i> , 2014, 49, 8423-8435.	3.7	12
43	Creep behaviour of MoSi ₂ -SiC and MoSi ₂ -HfO ₂ . <i>Materials Letters</i> , 2001, 51, 485-489.	2.6	11
44	Coating Surface Roughness Measurement Made On Coining Dies. <i>Manufacturing Technology</i> , 2014, 14, 309-317.	1.4	11
45	Structural and nanomechanical properties of sol-gel prepared (K, Na)NbO ₃ thin films. <i>Surface and Interface Analysis</i> , 2015, 47, 1063-1071.	1.8	10
46	Bending creep behaviour of pressureless sintered MoSi ₂ . <i>Scripta Materialia</i> , 1997, 37, 471-476.	5.2	9
47	Carbon Nanofibers Reinforced Ceramic Matrix Composites. , 0, , .		9
48	Development of Cold-Rolled Dual-Phase Steels with Tensile Strength Above 1000MPa and Good Bendability. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 4755-4771.	2.2	9
49	Effect of substrate on phase formation and surface morphology of sol-gel lead-free KNbO ₃ , NaNbO ₃ , and K _{0.5} Na _{0.5} NbO ₃ thin films. <i>Chemical Papers</i> , 2012, 66, .	2.2	8
50	Failure analysis of overhead power line yoke connector. <i>Engineering Failure Analysis</i> , 2013, 33, 66-74.	4.0	8
51	Mechanical and tribological properties of electrically conductive SiC based cermets. <i>International Journal of Refractory Metals and Hard Materials</i> , 2017, 65, 76-82.	3.8	8
52	Microstructure, fracture, electrical properties and machinability of SiC-TiNbC composites. <i>Journal of the European Ceramic Society</i> , 2017, 37, 4315-4322.	5.7	8
53	<i>In situ</i> tensile testing in SEM of Al ₄ C ₃ nanomaterials. <i>Estonian Journal of Engineering</i> , 2009, 15, 247.	0.4	8
54	Damage mechanism of Al ₄ C ₃ . <i>Materials Letters</i> , 2004, 58, 867-870.	2.6	7

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55	Thermal residual stress gradients in an alumina-zirconia composite obtained by electrophoretic deposition. <i>Journal of the European Ceramic Society</i> , 2006, 26, 553-558.	5.7	7
56	Effect of sol-gel preparation method on particle morphology in pure and nanocomposite PZT thin films. <i>Chemical Papers</i> , 2011, 65, .	2.2	7
57	Structural and mechanical properties of sol-gel prepared pyrochlore lanthanum niobates. <i>Journal of Materials Science</i> , 2015, 50, 7197-7207.	3.7	7
58	Effect of WC-Co cermet positioning and NiCr interlayer on the microstructure and mechanical response of the dissimilar WC-Co / AISI 304 rotary friction joint. <i>International Journal of Refractory Metals and Hard Materials</i> , 2021, 101, 105653.	3.8	7
59	Nanohardness of Individual Phases in WC-Co Cemented Carbides. <i>Key Engineering Materials</i> , 0, 586, 23-26.	0.4	6
60	Nanoindentation and AFM Studies on Tungsten Carbide Crystals in WC-Co Hardmetal. <i>Key Engineering Materials</i> , 0, 606, 107-110.	0.4	6
61	Effect of pulsating water jet disintegration on hardness and elasticity modulus of austenitic stainless steel AISI 304L. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 107, 2719-2730.	3.0	6
62	Influence of secondary phases in A356 MMCs on their mechanical properties at macro- and nanoscale. <i>Journal of the Brazilian Society of Mechanical Sciences and Engineering</i> , 2020, 42, 1.	1.6	6
63	Indentation Crack Healing in Low Glass-Content Mullite. <i>Key Engineering Materials</i> , 2002, 223, 257-260.	0.4	5
64	Influence of Al ₄ C ₃ particle volume fraction on fracture mechanism in Al-Al ₄ C ₃ composite. <i>Journal of Materials Science</i> , 2004, 39, 1071-1074.	3.7	5
65	The Influence of Current Density on Tribological Behavior Ni-Co Electroplated Coatings. <i>Key Engineering Materials</i> , 0, 635, 127-130.	0.4	5
66	Experimental in-vitro bone cements disintegration with ultrasonic pulsating water jet for revision arthroplasty. <i>Tehnicki Vjesnik</i> , 2015, 22, .	0.2	5
67	A Taguchi approach to the influence of infiltration parameters on microstructure and properties of W-ZrC composites prepared by the displacive compensation of porosity (DCP) method. <i>Composites Communications</i> , 2020, 20, 100356.	6.3	5
68	Surface Topography Analysis of Mg-Based Composites with Different Nanoparticle Contents Disintegrated Using Abrasive Water Jet. <i>Materials</i> , 2021, 14, 5471.	2.9	5
69	Mechanical properties of Si ₃ N ₄ /SiC nanocomposites studied by instrumented indentation with spheres. <i>Journal of the European Ceramic Society</i> , 2004, 24, 3345-3350.	5.7	4
70	Mechanical Properties of Alumina/Zirconia Functionally Graded Material Prepared by Electrophoretic Deposition. <i>Key Engineering Materials</i> , 2005, 290, 332-335.	0.4	4
71	Sintered composite materials on the basis of Fe/FePO ₄ -coated powders. <i>Surface and Interface Analysis</i> , 2015, 47, 350-356.	1.8	4
72	Effect of Fiber Laser Treating on Magnetic Domains in the Grain-Oriented Silicon Steel: Imaging Domains by Bitter, MFM and Kerr Microscopy. <i>High Temperature Materials and Processes</i> , 2016, 35, 739-744.	1.4	4

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73	Ceramic Matrix Composites With Carbon Nanophases: Development, Structure, Mechanical and Tribological Properties and Electrical Conductivity. , 2021, , 116-133.		4
74	Creep behavior of MoSi ₂ and MoSi ₂ + SiC composite. Journal of Materials Science, 2004, 39, 4073-4077.	3.7	3
75	Processing, microstructure and creep testing of Pt- γ -Al ₂ O ₃ composites. Materials & Design, 2007, 28, 2540-2543.	5.1	3
76	Thermal manifestations and nanoindentation of bone cements for orthopaedic surgery. Thermal Science, 2014, 18, 251-258.	1.1	3
77	Tribological behaviour and mechanical properties of copper and magnesium based composites treated by severe plastic deformation. International Journal of Materials and Product Technology, 2015, 50, 80.	0.2	3
78	Nanoindentation of (Ti,Ta)(C,N)-Co cermets prepared by methods of mechanochemistry. International Journal of Refractory Metals and Hard Materials, 2015, 49, 219-224.	3.8	3
79	The Study of Selected Properties of Ti EB PVD Coating Deposited Onto Inner Tube Surface at Low Temperature. Archives of Metallurgy and Materials, 2016, 61, 67-74.	0.6	3
80	Effect of ZrC nanopowder addition in WC preforms on microstructure and properties of W-ZrC composites prepared by the displacive compensation of porosity (DCP) method. Journal of the Australian Ceramic Society, 2021, 57, 515-523.	1.9	3
81	Fatigue behaviour of mullite studied by the indentation flexure method. Journal of the European Ceramic Society, 2001, 21, 53-61.	5.7	2
82	Residual Stress Profile Determined by Piezo-Spectroscopy in Alumina/Alumina-Zirconia Layers Separated by a Compositionally Graded Intermediate Layer. Key Engineering Materials, 2005, 290, 328-331.	0.4	2
83	Creep Testing of MoSi ₂ - Bases Composites. High Temperature Materials and Processes, 2006, 25, 139-142.	1.4	2
84	High Temperature Properties of the MoSi ₂ and MoSi ₂ SiC Nonocomposites. High Temperature Materials and Processes, 2009, 28, 271-276.	1.4	2
85	Multicomponent Thin Films Deposited by PVD ARC and LARC Technology. Medziagotyra, 2014, 20, .	0.2	2
86	Creep Behaviour and Fracture Analysis of MoSi ₂ Based Composites. High Temperature Materials and Processes, 2015, 34, .	1.4	2
87	Local Mechanical Properties of SiC - TiNbC Composite and its Constituents. Defect and Diffusion Forum, 0, 368, 158-161.	0.4	2
88	Wear damage of TiTaCN-Co cermets at room and elevated temperatures. Procedia Structural Integrity, 2017, 5, 1385-1392.	0.8	2
89	Wear and Erosion Resistant Ceramic Materials. , 2021, , 416-424.		2
90	Damage mechanism of AZ61-F Mg alloy with nano-Al ₂ O ₃ particles. Metallic Materials, 2011, 49, 451-455.	0.3	2

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91	Tribological behaviour and local mechanical properties of magnesium-alumina composites. <i>Metallic Materials</i> , 2016, 52, 313-319.	0.3	2
92	Deformation and fracture behaviour of two Si ₃ N ₄ ceramics with different sintering additives. <i>Scripta Metallurgica Et Materialia</i> , 1995, 32, 1459-1464.	1.0	1
93	Stress-Corrosion Cracking in Alumina Ceramics. <i>Key Engineering Materials</i> , 2002, 223, 187-192.	0.4	1
94	Fracture and Mechanical Properties of MoSi ₂ and MoSi ₂ + SiC. <i>Key Engineering Materials</i> , 2003, 251-252, 13-18.	0.4	1
95	Microstructure and mechanical properties of ZrO ₂ reinforced MoSi ₂ matrix composites. <i>International Journal of Materials and Product Technology</i> , 2005, 22, 322.	0.2	1
96	Creep behaviour of MoSi ₂ -HfO ₂ composites. <i>Journal of Materials Science</i> , 2005, 40, 3869-3871.	3.7	1
97	Effect of Low Temperature Degradation on Scratch Behaviour of 3Y-TZP. <i>Key Engineering Materials</i> , 0, 409, 322-325.	0.4	1
98	Tribological Characteristics of Micro- and Nano-Composites Cu-Al ₂ O ₃ at Room and Elevated Temperatures. <i>High Temperature Materials and Processes</i> , 2011, 30, .	1.4	1
99	Mechanical and Tribological Properties of Al ₂ O ₃ -ZrO ₂ -SiC Based Composites Prepared by EPD. <i>Key Engineering Materials</i> , 0, 507, 191-195.	0.4	1
100	Tribological Parameters of Copper-Alumina Composite. <i>Key Engineering Materials</i> , 2012, 527, 191-196.	0.4	1
101	Local Mechanical Properties of Various Bone Cements. <i>Key Engineering Materials</i> , 0, 592-593, 382-385.	0.4	1
102	Fractography of Advanced Ceramics V – Fractography from MACRO- to NANO-scale. <i>Journal of the European Ceramic Society</i> , 2017, 37, 4241-4242.	5.7	1
103	Study of Ni ₆₃ -Co ₃₇ nanocrystalline electrodeposited alloy as anti-wear coating on mild steel substrate. <i>Materials Research Express</i> , 2019, 6, 126557.	1.6	1
104	Effect of Post Weld Heat Treatment on Microstructure and Mechanical Behaviors of Weld Overlay Inconel 182 on 4130 Steel Substrate Using SMAW Process. <i>Metallography, Microstructure, and Analysis</i> , 2021, 10, 567-578.	1.0	1
105	Residual Stress Profile Determined by Piezo-Spectroscopy in Alumina/Alumina-Zirconia Layers Separated by a Compositionally Graded Intermediate Layer. <i>Key Engineering Materials</i> , 0, , 328-331.	0.4	1
106	Mechanical and tribological properties of TiB ₂ -Ti composites prepared by spark plasma sintering. <i>Metallic Materials</i> , 2020, 57, 435-442.	0.3	1
107	Fatigue Crack Growth in Self-Reinforced Silicon Nitride Based Materials. <i>Key Engineering Materials</i> , 2000, 175-176, 253-260.	0.4	0
108	Young's Modulus Measurement of Silicon Nitride Ceramics by Indentation Methods. <i>Key Engineering Materials</i> , 1999, 175-176, 335-0.	0.4	0

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109	Effect of aqueous solutions on time-dependent failure of a glass-bonded alumina. Journal of Materials Science Letters, 2001, 20, 745-749.	0.5	0
110	Stress Induced Depolarisation of Ferroelectrics in Thin Film Form. Ferroelectrics, 2002, 267, 367-372.	0.6	0
111	Compressive Creep Testing of Pt-Y2O3 Composites. High Temperature Materials and Processes, 2005, 24, 189-192.	1.4	0
112	Residual Stresses in Laminar Functionally Graded Ceramic Materials. Key Engineering Materials, 2007, 333, 259-262.	0.4	0
113	Tribological Characteristics of Copper Based Composites with Al2O3 Particles at Various Temperatures. High Temperature Materials and Processes, 2013, 32, 437-442.	1.4	0
114	Local Mechanical Properties of Cast and Sintered High Cr-Alloyed Steel. Key Engineering Materials, 0, 586, 241-244.	0.4	0
115	Instrumented Indentation of Composite Materials Prepared by Methods of Mechanochemistry. Key Engineering Materials, 0, 606, 241-244.	0.4	0
116	Wear and Mechanical Properties of Various Bone Cements " Influence of Saline Environment. Key Engineering Materials, 0, 662, 147-150.	0.4	0
117	TiTaCN-Co Cermets Prepared by Mechanochemical Technique: Microstructure and Mechanical Properties. Procedia Engineering, 2016, 149, 87-93.	1.2	0
118	Application of the statistical Taguchi method to optimize the properties of WC preforms to produce W-ZrC composites using reactive infiltration by molten Zr2 Cu. International Journal of Modern Physics B, 2020, 34, 2050233.	2.0	0
119	Plasma nitriding and its influence on contact fatigue of sintered steel. Metallic Materials, 2013, 50, 365-371.	0.3	0
120	Short Term Deformation and Relaxation Behaviour of Silicon Nitride Ceramics. , 1997, , 389-397.		0
121	Indentation Fatigue of Some Si3N4 Based Ceramics. , 1997, , 399-407.		0
122	Microstructure and tribological behavior of SPS processed Fe/Ti-15wt.%Cu-based metal matrix composites with incorporated waste Ti-chips. Metallic Materials, 2020, 58, 83-91.	0.3	0