Uwe Schulz

List of Publications by Year
in descending order

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120 papers	4,627 citations	126907 33 h-index	106344 65 g-index
125 all docs	125 docs citations	125 times ranked	2055 citing authors

#	Article	IF	Citations
1	Study of CMAS infiltration and evaporation behaviour under water vapour/sulphur oxide conditions in EB-PVD 7YSZ. Corrosion Science, 2022, 198, 110123.	6.6	6
2	Contemporary Materials Issues for Advanced EB-PVD Thermal Barrier Coating Systems. International Journal of Materials Research, 2022, 92, 762-772.	0.3	4
3	Reaction Products from High Temperature Treatments of (LaxGd1â^'x)2Zr2O7 System and Volcanic Ash Powder Mixtures. Jom, 2022, 74, 2791-2808.	1.9	4
4	Factors affecting cyclic lifetime of EB-PVD thermal barrier coatings with various bond coats. International Journal of Materials Research, 2022, 94, 649-654.	0.3	0
5	Impedance spectroscopy of thermal barrier coatings as non-destructive evaluation tool for failure detection. International Journal of Materials Research, 2022, 96, 725-730.	0.3	0
6	Interface reactions of magnetron sputtered Si-based dual layer coating systems as oxidation protection for Mo-Si-Ti alloys. Surface and Coatings Technology, 2022, 444, 128620.	4.8	4
7	Erosion behavior of CMAS/VA infiltrated EB-PVD Gd2Zr2O7 TBCs: Special emphasis on the effect of mechanical properties of the reaction products. Wear, 2022, 506-507, 204450.	3.1	1
8	Detrimental effects of sand ingression in jet engine ceramic coatings captured with Raman-based 3D rendering. Journal of the European Ceramic Society, 2021, 41, 1664-1671.	5.7	7
9	Lifetime improvement of EB-PVD 7YSZ TBCs by doping of Hf or Zr in NiCoCrAlY bond coats. Corrosion Science, 2021, 181, 109205.	6.6	16
10	Oxidation behavior of dense Yttrium doped B2-NiAl bulk material fabricated by ball milling self-propagating high-temperature synthesis and densified by spark plasma sintering. Surface and Coatings Technology, 2021, 421, 127448.	4.8	3
11	Graded PVD Mo-Si interlayer between Si coating and Mo-Si-B alloys: Investigation of oxidation behaviour. Corrosion Science, 2021, 192, 109843.	6.6	8
12	Comparative study of EB-PVD gadolinium-zirconate and yttria-rich zirconia coatings performance against Fe-containing calcium-magnesium-aluminosilicate (CMAS) infiltration. Corrosion Science, 2021, 190, 109660.	6.6	26
13	Hafnia-doped silicon bond coats manufactured by PVD for SiC/SiC CMCs. Acta Materialia, 2020, 183, 471-483.	7.9	62
14	Effect of processing and interface on the durability of single and bilayer 7YSZ / gadolinium zirconate EB-PVD thermal barrier coatings. Surface and Coatings Technology, 2020, 381, 125107.	4.8	16
15	Investigation of CMAS Resistance of Sacrificial Suspension Sprayed Alumina Topcoats on EB-PVD 7YSZ Layers. Journal of Thermal Spray Technology, 2020, 29, 90-104.	3.1	8
16	Effects of yttria content on the CMAS infiltration resistance of yttria stabilized thermal barrier coatings system. Journal of Materials Science and Technology, 2020, 43, 74-83.	10.7	26
17	Microstructural analysis after furnace cyclic testing of pre-oxidized ReneN5/(Ni,Pt)Al/7YSZ thermal barrier coatings. Surface and Coatings Technology, 2020, 403, 126376.	4.8	6
18	Microstructure and cyclic oxidation resistance of Si-aluminide coatings on Î³-TiAl at 850â€¯Â°C. Surface and Coatings Technology, 2020, 403, 126361.	4.8	22

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19	High-energy X-ray phase analysis of CMAS-infiltrated 7YSZ thermal barrier coatings: Effect of time and temperature. Journal of Materials Research, 2020, 35, 2300-2310.	2.6	6
20	Magnetron Sputtered Silicon Coatings as Oxidation Protection for Moâ€Based Alloys. Advanced Engineering Materials, 2020, 22, 2000218.	3.5	8
21	Oxidation-induced microstructural changes of the TiAl TNM-B1 alloy after exposure at 900ÂÂ°C in air. Intermetallics, 2020, 123, 106830.	3.9	27
22	Nanoindentation dataset of silicon and hafnia doped silicon coatings produced by magnetron sputtering. Data in Brief, 2020, 31, 105800.	1.0	0
23	Synchrotron X-Ray Diffraction Study of Phase Transformation in CMAS Ingressed EB-PVD Thermal Barrier Coatings. , 2020, , .		0
24	High temperature interaction of volcanic ashes with 7YSZ TBC's produced by APS: Infiltration behavior and phase stability. Surface and Coatings Technology, 2019, 378, 124915.	4.8	21
25	Flow Kinetics of Molten Silicates through Thermal Barrier Coating: A Numerical Study. Coatings, 2019, 9, 332.	2.6	16
26	Estimation of CMAS infiltration depth in EB-PVD TBCs: A new constraint model supported with experimental approach. Journal of the European Ceramic Society, 2019, 39, 2936-2945.	5.7	35
27	Erosion resistance of CMAS infiltrated sacrificial suspension sprayed alumina top layer on EB-PVD 7YSZ coatings. Wear, 2019, 438-439, 203064.	3.1	7
28	Microstructure and lifetime of Hf or Zr doped sputtered NiAlCr bond coat/7YSZ EB-PVD TBC systems. Surface and Coatings Technology, 2018, 335, 41-51.	4.8	13
29	Integrated testing approach using a customized micro turbine for a volcanic ash and CMAS related degradation study of thermal barrier coatings. Surface and Coatings Technology, 2018, 337, 198-208.	4.8	21
30	Environmental protection of Nb/Nb5Si3-based alloys by E/TBC systems. Intermetallics, 2018, 93, 169-179.	3.9	3
31	Investigation of the Effects of CMAS-infiltration in EB-PVD 7% Yttria-Stabilized Zirconia via Raman Spectroscopy. , 2018, , .		3
32	PVD thermal barrier coating systems for Moâ€“Siâ€“B alloys. Materials at High Temperatures, 2018, 35, 195-203.	1.0	5
33	EB-PVD alumina (Al2O3) as a top coat on 7YSZ TBCs against CMAS/VA infiltration: Deposition and reaction mechanisms. Journal of the European Ceramic Society, 2018, 38, 3333-3346.	5.7	51
34	Microstructural analysis of Ta-containing NiCoCrAlY bond coats deposited by HVOF on different Ni-based superalloys. Surface and Coatings Technology, 2018, 354, 214-225.	4.8	26
35	Erosion behavior of EB-PVD 7YSZ coatings under corrosion/erosion regime: Effect of TBC microstructure and the CMAS chemistry. Journal of the European Ceramic Society, 2018, 38, 5101-5112.	5.7	29
36	Effect of intermetallic coatings on the tensile properties of a Î³-TiAl based TNM alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 699, 118-127.	5.6	20

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37	Interaction and infiltration behavior of EyjafjallajÃ¶kull, Sakurajima volcanic ashes and a synthetic CMAS containing FeO with/in EB-PVD ZrO 2 -65Âwt% Y 2 O 3 coating at high temperature. Acta Materialia, 2017, 136, 164-180.	7.9	56
38	Tailoring the EB-PVD columnar microstructure to mitigate the infiltration of CMAS in 7YSZ thermal barrier coatings. Journal of the European Ceramic Society, 2017, 37, 261-270.	5.7	82
39	The Accelerating Effect of <scp>CaSO</scp>₄ Within <scp>CMAS</scp> (<scp>CaO</scp>â€“<scp>MgO</scp>â€“<scp>Al</scp>₂<scp>O</scp>₃â€“<scp>SiO</scp>₂ and Its Effect on the Infiltration Behavior in <scp>EB</scp>â€<scp>PVD</scp> 7<scp>YSZ</scp>. Journal of the American Ceramic Society, 2016, 99, 1398-1403.	3.8	27
40	Mechanical Properties of Sharkâ€Skin Like Structured Surfaces for Highâ€Temperature Applications. Advanced Engineering Materials, 2016, 18, 688-702.	3.5	7
41	Microstructure and lifetime of EB-PVD TBCs with Hf-doped bond coat and Gd-zirconate ceramic top coat on CMSX-4 substrates. Surface and Coatings Technology, 2016, 299, 104-112.	4.8	27
42	Adherence and Failure of an EBPVD 7YSZ Coating on a Î²/Î³-NiCrAl Substrate: A Pilot Study. Oxidation of Metals, 2016, 86, 279-298.	2.1	4
43	Lifetime of environmental/thermal barrier coatings deposited on a niobium silicide composite with boron containing M₇Si₆â€based bond coat. Materials and Corrosion - Werkstoffe Und Korrosion, 2016, 67, 1252-1260.	1.5	10
44	Protective coatings on stainless steel bipolar plates for proton exchange membrane (PEM) electrolysers. Journal of Power Sources, 2016, 307, 815-825.	7.8	131
45	Y2SiO5environmental barrier coatings for niobium silicide based materials. Materials at High Temperatures, 2015, 32, 74-80.	1.0	13
46	Environmental/thermal barrier coating systems deposited on Nb/Nb₅Si₃based alloy. Materials at High Temperatures, 2015, 32, 50-56.	1.0	8
47	High Temperature Oxidation Stability of Aerodynamically Optimised Riblets for Blades of Aero-engine Applications. Oxidation of Metals, 2015, 83, 133-150.	2.1	3
48	Substrate Effect on the Lifetime of EB-PVD TBC Systems With 7YSZ and GDZ as Ceramic Top Coat Materials. , 2014, , .		2
49	High temperature oxidation of EB-PVD TBCs on Pt-diffused single crystal Ni superalloy. Surface and Coatings Technology, 2014, 260, 2-8.	4.8	14
50	Solid particle erosion of thick PVD coatings on CFRP. Wear, 2014, 317, 246-253.	3.1	36
51	Microstructure and cyclic lifetime of Gd and Dy-containing EB-PVD TBCs deposited as single and double-layer on various bond coats. Surface and Coatings Technology, 2014, 245, 92-101.	4.8	45
52	Degradation study of 7 wt.% yttria stabilised zirconia (7YSZ) thermal barrier coatings on aero-engine combustion chamber parts due to infiltration by different CaOâ€“MgOâ€“Al 2 O 3 â€“SiO 2 variants. Surface and Coatings Technology, 2014, 260, 73-81.	4.8	56
53	Degradation of La2Zr2O7 and other novel EB-PVD thermal barrier coatings by CMAS (CaOâ€“MgOâ€“Al2O3â€“SiO2) and volcanic ash deposits. Surface and Coatings Technology, 2013, 235, 165-173.	4.8	125
54	Assessment of Cyclic Lifetime of NiCoCrAlY/ZrO2-Based EB-PVD TBC Systems via Reactive Element Enrichment in the Mixed Zone of the TGO Scale. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 2070-2082.	2.2	9

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55	Erosion resistant titanium based PVD coatings on CFRP. Wear, 2013, 302, 937-945.	3.1	48
56	Microstructural Evolution of GdZ and DySZ Based EB-PVD TBC Systems After Thermal Cycling at High Temperature. Journal of Engineering for Gas Turbines and Power, 2013, 135, .	1.1	3
57	Microstructural Evolution of GdZ and DySZ Based EB-PVD TBC Systems After Thermal Cycling at High Temperature. , 2013, , .		0
58	Processing science of advanced thermal-barrier systems. MRS Bulletin, 2012, 37, 903-910.	3.5	244
59	Short-time Oxidation of Cast Î³/Î³â€²-Niâ€“Crâ€“Alâ€“Taâ€“Re Alloys at 1,000ÂÂ°C. Oxidation of Metals, 2012, 78, 263-82.		3
60	Shark skin inspired riblet structures as aerodynamically optimized high temperature coatings for blades of aeroengines. Smart Materials and Structures, 2011, 20, 094016.	3.5	33
61	Highâ€Temperature Corrosion of EBâ€PVD Yttria Partially Stabilized Zirconia Thermal Barrier Coatings with an Artificial Volcanic Ash Overlay. Journal of the American Ceramic Society, 2011, 94, 925-931.	3.8	94
62	Shark Skin Inspired Riblet Coatings for Aerodynamically Optimized High Temperature Applications in Aeroengines. Advanced Engineering Materials, 2011, 13, 288-295.	3.5	13
63	Oxidation and fatigue behaviour of Î³-TiAl coated with HIPIMS CrAlYN/CrN nanoscale multilayer coatings and EB-PVD thermal barrier coatings. International Journal of Materials Research, 2010, 101, 648-656.	0.3	15
64	Infrared-optical properties and heat transfer coefficients of semitransparent thermal barrier coatings. Surface and Coatings Technology, 2009, 203, 1059-1068.	4.8	88
65	Gas flow sputtering â€" An approach to coat complex geometries and Non Line of Sight areas. Surface and Coatings Technology, 2009, 204, 1087-1091.	4.8	15
66	Thermal Conductivity of Nanoporous YSZ Thermal Barrier Coatings Fabricated by EB-PVD. , 2009, , 115-123.		0
67	Thermal and Mechanical Properties of Zirconia Coatings Produced by Electrophoretic Deposition. , 2009, , 1-10.		0
68	Cyclic behavior of EB-PVD thermal barrier coating systems with modified bond coats. Surface and Coatings Technology, 2008, 203, 449-455.	4.8	76
69	Improvement of EB-PVD thermal barrier coatings by treatments of a vacuum plasma-sprayed bond coat. Surface and Coatings Technology, 2008, 203, 160-170.	4.8	50
70	Developments in Processing of Ceramic Top Coats of EB-PVD Thermal Barrier Coatings. Key Engineering Materials, 2007, 333, 137-146.	0.4	6
71	Thermal conductivity issues of EBâ€PVD thermal barrier coatings. Materialwissenschaft Und Werkstofftechnik, 2007, 38, 659-666.	0.9	27
72	Lifetimeâ€determining spalling mechanisms of NiCoCrAlRE / EBâ€PVD zirconia TBC systems. Materialwissenschaft Und Werkstofftechnik, 2007, 38, 734-746.	0.9	9

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73	The effects of heat treatment and gas atmosphere on the thermal conductivity of APS and EB-PVD PYSZ thermal barrier coatings. Surface and Coatings Technology, 2007, 201, 7880-7888.	4.8	86
74	The effect of coating thickness on the thermal conductivity of EB-PVD PYSZ thermal barrier coatings. Surface and Coatings Technology, 2006, 200, 5636-5644.	4.8	87
75	Effect of morphology on thermal conductivity of EB-PVD PYSZ TBCs. Surface and Coatings Technology, 2006, 201, 2611-2620.	4.8	114
76	Life time dependency on the pre-coating treatment of a thermal barrier coating under thermal cycling. Surface and Coatings Technology, 2006, 201, 2667-2675.	4.8	17
77	Analytical electron microscopy of the mixed zone in NiCoCrAlY-based EB-PVD thermal barrier coatings: as-coated condition versus late stages of TBC lifetime. Materials at High Temperatures, 2005, 22, 393-401.	1.0	8
78	Fabrication of TBC-armored rocket combustion chambers by EB-PVD methods and TLP assembling. Science and Technology of Advanced Materials, 2005, 6, 103-110.	6.1	12
79	Impedance spectroscopy of thermal barrier coatings as non-destructive evaluation tool for failure detection. International Journal of Materials Research, 2005, 96, 725-730.	0.8	1
80	Analytical electron microscopy of the mixed zone in NiCoCrAlY-based EB-PVD thermal barrier coatings: as-coated condition versus late stages of TBC lifetime. Materials at High Temperatures, 2005, 22, 393-401.	1.0	11
81	Nucleation and Growth of Oxide Constituents on NiCoCrAlY Bond Coats during the Different Stages of EB-PVD TBC Deposition and Upon Thermal Loading. Materials Science Forum, 2004, 461-464, 899-906.	0.3	20
82	EB-PVD processing of pyrochlore-structured La2Zr2O7-based TBCs. Surface and Coatings Technology, 2004, 182, 175-183.	4.8	173
83	Investigation of an as-sprayed NiCoCrAlY overlay coating.. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 369, 144-150.	5.6	12
84	Review on Advanced EBâ€PVD Ceramic Topcoats for TBC Applications. International Journal of Applied Ceramic Technology, 2004, 1, 302-315.	2.1	230
85	Influence of bondcoat pre-treatment and surface topology on the lifetime of EB-PVD TBCs. Surface and Coatings Technology, 2003, 165, 217-223.	4.8	66
86	Microstructure and texture of EB-PVD TBCs grown under different rotation modes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 360, 319-329.	5.6	126
87	Graded coatings for thermal, wear and corrosion barriers. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2003, 362, 61-80.	5.6	191
88	Some recent trends in research and technology of advanced thermal barrier coatings. Aerospace Science and Technology, 2003, 7, 73-80.	4.8	406
89	Oxidation and lifetime of PYSZ and CeSZ coated Ni-base substrates with MCrAlY bond layers. Materials at High Temperatures, 2003, 20, 475-480.	1.0	7
90	Oxidation and lifetime of PYSZ and CeSZ coated Ni-base substrates with MCrAlY bond layers. Materials at High Temperatures, 2003, 20, 475-479.	1.0	3

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91	Influence of Processing on Microstructure and Performance of Electron Beam Physical Vapor Deposition (EB-PVD) Thermal Barrier Coatings. Journal of Engineering for Gas Turbines and Power, 2002, 124, 229-234.	1.1	30
92	EB-PVD Thermal Barrier Coatings for Aeroengines and Gas Turbines. Advanced Engineering Materials, 2001, 3, 193-204.	3.5	149
93	Influence of substrate material on oxidation behavior and cyclic lifetime of EB-PVD TBC systems. Surface and Coatings Technology, 2001, 146-147, 117-123.	4.8	172
94	Influence of Processing on Microstructure and Performance of EB-PVD Thermal Barrier Coatings. , 2000, , .		1
95	R&D Status and Needs for Improved EB-PVD Thermal Barrier Coating Performance. Materials Research Society Symposia Proceedings, 2000, 645, 1011.	0.1	2
96	Microstructure of ZrO2 thermal barrier coatings applied by EB-PVD. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 276, 1-8.	5.6	142
97	Two-source jumping beam evaporation for advanced EB-PVD TBC systems. Surface and Coatings Technology, 2000, 133-134, 40-48.	4.8	39
98	Phase Transformation in EBâ€PVD Yttria Partially Stabilized Zirconia Thermal Barrier Coatings during Annealing. Journal of the American Ceramic Society, 2000, 83, 904-910.	3.8	189
99	Emittance of Y2O3 stabilised ZrO2 thermal barrier coatings prepared by electron-beam physical-vapour deposition. High Temperatures - High Pressures, 2000, 32, 361-368.	0.3	17
100	Influence of electron beam physical vapor deposited thermal barrier coating microstructure on thermal barrier coating system performance under cyclic oxidation conditions. Surface and Coatings Technology, 1999, 120-121, 68-76.	4.8	62
101	Graded EB-PVD Alumina-Zirconia Thermal Barrier Coatings-An Experimental Approach. Materials Science Forum, 1999, 308-311, 396-401.	0.3	12
102	Thermocyclic Behaviour of Microstructurally Modified EB-PVD Thermal Barrier Coatings. Materials Science Forum, 1997, 251-254, 957-964.	0.3	33
103	TEM Investigation on the Adhesion of YPSZ EB-PVD TBCs. Materials Science Forum, 1997, 251-254, 965-972.	0.3	7
104	Thermocyclic Behavior of Variously Stabilized EB-PVD Thermal Barrier Coatings. Journal of Engineering for Gas Turbines and Power, 1997, 119, 917-921.	1.1	14
105	Al2O3 - ZrO2 Graded Thermal Barrier Coatings by EB-PVD - Concept, Microstructure and Phase Stability. , 1997, , 263-268.		1
106	Microstructure and phase stability of EB-PVD alumina and alumina/zirconia for thermal barrier coating applications. Surface and Coatings Technology, 1997, 94-95, 131-136.	4.8	41
107	Design and Properties of Thermal Barrier Coatings for advanced turbine engines. Materialwissenschaft Und Werkstofftechnik, 1997, 28, 357-362.	0.9	22
108	Thermocyclic Behavior of Differently Stabilized and structured EB-PVD thermal barrier coatings. Materialwissenschaft Und Werkstofftechnik, 1997, 28, 370-376.	0.9	25

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109	EB-PVD Y2O3- and -stabilized zirconia thermal barrier coatings â€" crystal habit and phase composition. Surface and Coatings Technology, 1996, 82, 259-269.	4.8	98
110	Thermocyclic Behavior of Variously Stabilized EB-PVD Thermal Barrier Coatings. , 1996, , .		1
111	Texture of EB-PVD Thermal Barrier Coatings Under Variable Deposition Conditions / Textur von EB-PVD WÃrmedÃmmschichten bei unterschiedlichen Aufdampfbedingungen. International Journal of Materials Research, 1996, 87, 488-492.	0.3	5
112	Evaluation of Two New Thermal Barrier Coating Materials Produced by APS and EB-PVD. Ceramic Engineering and Science Proceedings, 0, , 363-373.	0.1	6
113	Low Thermal Conductivity Ceramics for Turbine Blade Thermal Barrier Coating Application. Ceramic Engineering and Science Proceedings, 0, , 375-380.	0.1	12
114	High-Temperature Aging of Eb-Pvd Thermal Barrier Coatings. Ceramic Engineering and Science Proceedings, 0, , 347-356.	0.1	17
115	Impact of Thermal Exposure of EBâ€"PVD TBCs on Youngs Modulus and Sintering. Ceramic Engineering and Science Proceedings, 0, , 341-352.	0.1	15
116	Influence of Deposition Conditions on Density and Microstructure of EBâ€"PVD TBCs. Ceramic Engineering and Science Proceedings, 0, , 353-360.	0.1	24
117	Y-Doped La2Zr2O7 Pyrochlore Eb-Pvd Thermal Barrier Coatings. , 0, , 491-496.		8
118	Simulating Thermal Response of Eb-Pvd Thermal Barrier Coating Microstructures. , 0, , 549-554.		7
119	Developments in Processing of Ceramic Top Coats of EB-PVD Thermal Barrier Coatings. Key Engineering Materials, 0, , 137-146.	0.4	2
120	Elastic and Inelastic Deformation Properties of Free Standing Ceramic EB-PVD Coatings. , 0, , 11-18.		0