

Eric H Jordan

List of Publications by Year in descending order

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81
papers

6,805
citations

94269

37
h-index

62479

80
g-index

83
all docs

83
docs citations

83
times ranked

3390
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal Barrier Coatings for Gas-Turbine Engine Applications. <i>Science</i> , 2002, 296, 280-284.	6.0	3,626
2	The 2016 Thermal Spray Roadmap. <i>Journal of Thermal Spray Technology</i> , 2016, 25, 1376-1440.	1.6	243
3	Thermal Barrier Coatings Made by the Solution Precursor Plasma Spray Process. <i>Journal of Thermal Spray Technology</i> , 2008, 17, 124-135.	1.6	132
4	Highly durable thermal barrier coatings made by the solution precursor plasma spray process. <i>Surface and Coatings Technology</i> , 2004, 177-178, 97-102.	2.2	127
5	Mechanisms of ceramic coating deposition in solution-precursor plasma spray. <i>Journal of Materials Research</i> , 2002, 17, 2363-2372.	1.2	121
6	Thick ceramic thermal barrier coatings with high durability deposited using solution-precursor plasma spray. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 405, 313-320.	2.6	102
7	Effect of solution concentration on splat formation and coating microstructure using the solution precursor plasma spray process. <i>Surface and Coatings Technology</i> , 2008, 202, 2132-2138.	2.2	92
8	Formation of vertical cracks in solution-precursor plasma-sprayed thermal barrier coatings. <i>Surface and Coatings Technology</i> , 2006, 201, 1058-1064.	2.2	84
9	The Solution Precursor Plasma Spray (SPPS) Process: A Review with Energy Considerations. <i>Journal of Thermal Spray Technology</i> , 2015, 24, 1153-1165.	1.6	80
10	Identification of coating deposition mechanisms in the solution-precursor plasma-spray process using model spray experiments. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2003, 362, 204-212.	2.6	79
11	Processing parameter effects on solution precursor plasma spray process spray patterns. <i>Surface and Coatings Technology</i> , 2004, 183, 51-61.	2.2	70
12	Stress variation with thermal cycling in the thermally grown oxide of an EB-PVD thermal barrier coating. <i>Surface and Coatings Technology</i> , 2004, 179, 286-296.	2.2	68
13	Failure mechanisms of dense vertically-cracked thermal barrier coatings. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 384, 151-161.	2.6	65
14	Pressureless sintering of translucent MgO ceramics. <i>Scripta Materialia</i> , 2008, 59, 757-759.	2.6	64
15	Thermal Stability of Air Plasma Spray and Solution Precursor Plasma Spray Thermal Barrier Coatings. <i>Journal of the American Ceramic Society</i> , 2007, 90, 3160-3166.	1.9	61
16	Apatite formation on alkaline-treated dense TiO ₂ coatings deposited using the solution precursor plasma spray process. <i>Acta Biomaterialia</i> , 2008, 4, 553-559.	4.1	57
17	Higher Temperature Thermal Barrier Coatings with the Combined Use of Yttrium Aluminum Garnet and the Solution Precursor Plasma Spray Process. <i>Journal of Thermal Spray Technology</i> , 2018, 27, 543-555.	1.6	57
18	Fluid Mechanics and Heat Transfer of Liquid Precursor Droplets Injected into High-Temperature Plasmas. <i>Journal of Thermal Spray Technology</i> , 2008, 17, 60-72.	1.6	55

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19	Low Thermal Conductivity Yttria-Stabilized Zirconia Thermal Barrier Coatings Using the Solution Precursor Plasma Spray Process. <i>Journal of Thermal Spray Technology</i> , 2014, 23, 849-859.	1.6	55
20	Surface geometry and strain energy effects in the failure of a (Ni,Pt)Al/EB-PVD thermal barrier coating. <i>Acta Materialia</i> , 2004, 52, 1107-1115.	3.8	52
21	Low thermal conductivity thermal barrier coating deposited by the solution plasma spray process. <i>Surface and Coatings Technology</i> , 2006, 201, 4447-4452.	2.2	52
22	Deposition of thermal barrier coatings using the solution precursor plasma spray process. <i>Journal of Materials Science</i> , 2004, 39, 1639-1646.	1.7	51
23	Infrared-Transparent Y_{2O_3} -MgO Nanocomposites Using Sol-Gel Combustion Synthesized Powder. <i>Journal of the American Ceramic Society</i> , 2010, 93, 3535-3538.	1.9	50
24	Deposition mechanisms of thermal barrier coatings in the solution precursor plasma spray process. <i>Surface and Coatings Technology</i> , 2004, 177-178, 103-107.	2.2	49
25	The effect of bond coat grit blasting on the durability and thermally grown oxide stress in an electron beam physical vapor deposited thermal barrier coating. <i>Surface and Coatings Technology</i> , 2003, 176, 57-66.	2.2	48
26	Mechanisms of spallation of solution precursor plasma spray thermal barrier coatings. <i>Surface and Coatings Technology</i> , 2004, 188-189, 101-106.	2.2	48
27	Microstructure of Suspension Plasma Spray and Air Plasma Spray Al_2O_3 - ZrO_2 Composite Coatings. <i>Journal of Thermal Spray Technology</i> , 2009, 18, 421-426.	1.6	47
28	The Solution Precursor Plasma Spray Coatings: Influence of Solvent Type. <i>Plasma Chemistry and Plasma Processing</i> , 2010, 30, 111-119.	1.1	47
29	Damage evolution in an electron beam physical vapor deposited thermal barrier coating as a function of cycle temperature and time. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2005, 393, 51-62.	2.6	46
30	Explanation of the effect of rapid cycling on oxidation, rumpling, microcracking and lifetime of air plasma sprayed thermal barrier coatings. <i>Surface and Coatings Technology</i> , 2014, 244, 109-116.	2.2	45
31	Photoluminescence Piezospectroscopy: A Multi-Purpose Quality Control and NDI Technique for Thermal Barrier Coatings. <i>International Journal of Applied Ceramic Technology</i> , 2004, 1, 316-329.	1.1	44
32	Identification of Desirable Precursor Properties for Solution Precursor Plasma Spray. <i>Journal of Thermal Spray Technology</i> , 2011, 20, 802-816.	1.6	44
33	Double-Layer Gadolinium Zirconate/Yttria-Stabilized Zirconia Thermal Barrier Coatings Deposited by the Solution Precursor Plasma Spray Process. <i>Journal of Thermal Spray Technology</i> , 2015, 24, 895-906.	1.6	44
34	Phase and microstructural stability of solution precursor plasma sprayed thermal barrier coatings. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2004, 381, 189-195.	2.6	40
35	Effect of temperature on rumpling and thermally grown oxide stress in an EB-PVD thermal barrier coating. <i>Surface and Coatings Technology</i> , 2006, 201, 3289-3298.	2.2	40
36	Porous TiO_2 coating using the solution precursor plasma spray process. <i>Surface and Coatings Technology</i> , 2008, 202, 6113-6119.	2.2	40

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37	Dense TiO ₂ Coating Using the Solution Precursor Plasma Spray Process. Journal of the American Ceramic Society, 2008, 91, 865-872.	1.9	39
38	Three-dimensional X-ray micro-computed tomography of cracks in a furnace cycled air plasma sprayed thermal barrier coating. Scripta Materialia, 2015, 97, 13-16.	2.6	38
39	Influence of microstructure on the durability of gadolinium zirconate thermal barrier coatings using APS & SPPS processes. Surface and Coatings Technology, 2018, 337, 117-125.	2.2	38
40	Dense Alumina-Zirconia Coatings Using the Solution Precursor Plasma Spray Process. Journal of the American Ceramic Society, 2008, 91, 359-365.	1.9	37
41	Sol-gel synthesis and characterization of Al ₂ O ₃ -TiO ₂ nanocrystalline powder. Journal of Sol-Gel Science and Technology, 2009, 50, 44-47.	1.1	36
42	Sol-Gel Combustion Synthesis of Nanocrystalline YAG Powder from Metal-Organic Precursors. Journal of the American Ceramic Society, 2008, 91, 2759-2762.	1.9	35
43	The viscoplastic behavior of hastelloy-X single crystal. International Journal of Plasticity, 1993, 9, 119-139.	4.1	30
44	A Foaming Esterification Sol-Gel Route for the Synthesis of Magnesia-Yttria Nanocomposites. Journal of the American Ceramic Society, 2011, 94, 367-371.	1.9	29
45	Suspension plasma sprayed composite coating using amorphous powder feedstock. Applied Surface Science, 2009, 255, 5935-5938.	3.1	27
46	Effects of Precursor Chemistry on the Structural Characteristics of Y ₂ O ₃ -MgO Nanocomposites Synthesized by a Combined Sol-Gel/Thermal Decomposition Route. Journal of the American Ceramic Society, 2011, 94, 372-381.	1.9	27
47	Microstress analysis of periodic composites. Composites Part B: Engineering, 1991, 1, 29-40.	0.6	26
48	Evolution of photo-stimulated luminescence of EB-PVD/(Ni, Pt)Al thermal barrier coatings. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 398, 99-107.	2.6	23
49	Thermoviscoplastic analysis of fibrous periodic composites by the use of triangular subvolumes. Composites Science and Technology, 1994, 50, 71-84.	3.8	22
50	Dy:YAG Phosphor Coating Using the Solution Precursor Plasma Spray Process. Journal of the American Ceramic Society, 2009, 92, 268-271.	1.9	22
51	Phase Homogeneity in Y ₂ O ₃ -MgO Nanocomposites Synthesized by Thermal Decomposition of Nitrate Precursors with Ammonium Acetate Additions. Journal of the American Ceramic Society, 2011, 94, 4207-4217.	1.9	21
52	Experimental investigation of the relationship between thermal barrier coating structured porosity and homogeneous charge compression ignition engine combustion. International Journal of Engine Research, 2021, 22, 88-108.	1.4	21
53	A Sucrose-Mediated Sol-Gel Technique for the Synthesis of MgO-Y ₂ O ₃ Nanocomposites. Journal of the American Ceramic Society, 2013, 96, 346-350.		20
54	Experimental and Finite Element Study of an Air Plasma Sprayed Thermal Barrier Coating under Fixed Cycle Duration at Various Temperatures. Journal of the American Ceramic Society, 2013, 96, 3210-3217.	1.9	20

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55	Analysis of localized damage in EB-PVD/(Ni, Pt)Al thermal barrier coatings. Surface and Coatings Technology, 2006, 200, 5193-5202.	2.2	18
56	Solution precursor high-velocity oxy-fuel spray ceramic coatings. Journal of the European Ceramic Society, 2009, 29, 3349-3353.	2.8	18
57	Y_2O_3 - MgO - ZrO_2 Infrared Transparent Ceramic Nanocomposites. Journal of the American Ceramic Society, 2012, 95, 1033-1037.	1.9	18
58	Phase Homogeneity in MgO - ZrO_2 Nanocomposites Synthesized by a Combined Sol-Gel/Thermal Decomposition Route. Journal of the American Ceramic Society, 2010, 93, 3102-3109.	1.9	17
59	Closed form solution for rectangular inclusions with quadratic eigenstrains. International Journal of Engineering Science, 1999, 37, 1261-1276.	2.7	15
60	Laser induced breakdown spectroscopy for contamination removal on engine-run thermal barrier coatings. Surface and Coatings Technology, 2011, 205, 4614-4619.	2.2	15
61	Remaining Life Prediction of Thermal Barrier Coatings Based on Photoluminescence Piezospectroscopy Measurements. Journal of Engineering for Gas Turbines and Power, 2006, 128, 610-616.	0.5	14
62	Synthesis of porous, high surface area MgO microspheres. Materials Letters, 2009, 63, 783-785.	1.3	14
63	Implementation of a Viscoplastic Model for a Plasma Sprayed Ceramic Thermal Barrier Coating. Journal of Engineering Materials and Technology, Transactions of the ASME, 2003, 125, 200-207.	0.8	13
64	Low Thermal Conductivity Yttrium Aluminum Garnet Thermal Barrier Coatings Made by the Solution Precursor Plasma Spray: Part I—Processing and Properties. Journal of Thermal Spray Technology, 2018, 27, 781-793.	1.6	13
65	Plasma Sprayed Dense MgO-Y ₂ O ₃ Nanocomposite Coatings Using Sol-Gel Combustion Synthesized Powder. Journal of Thermal Spray Technology, 2010, 19, 873-878.	1.6	12
66	Effect of CMAS viscosity on the infiltration depth in thermal barrier coatings of different microstructures. Surface and Coatings Technology, 2022, 432, 128039.	2.2	11
67	Solution Precursor Plasma Spray Eu : Y_2O_3 Phosphor Coating. International Journal of Applied Ceramic Technology, 2012, 9, 636-641.	1.1	10
68	Low Thermal Conductivity Yttrium Aluminum Garnet Thermal Barrier Coatings Made by the Solution Precursor Plasma Spray: Part II—Planar Pore Formation and CMAS Resistance. Journal of Thermal Spray Technology, 2018, 27, 794-808.	1.6	10
69	High Temperature Thermal Barrier Coating Made by the Solution Precursor Plasma Spray Process. , 2014, , .		9
70	Cyclic furnace testing and life predictions of thermal barrier coating spallation subject to a step change in temperature or in cycle duration. Surface and Coatings Technology, 2015, 275, 384-391.	2.2	9
71	Elastic Constants of Single Crystal Hastelloy X at Elevated Temperatures. Journal of Engineering Materials and Technology, Transactions of the ASME, 1998, 120, 242-247.	0.8	8
72	Stress measurements via photoluminescence piezospectroscopy on engine run thermal barrier coatings. Surface and Coatings Technology, 2012, 206, 2751-2758.	2.2	8

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73	Self-consistent constitutive modeling and testing of polycrystalline hastelloy-X. International Journal of Solids and Structures, 1992, 29, 2623-2638.	1.3	6
74	Gauss integration applied to a Green's function formulation for cylindrical fiber composites. Mechanics of Materials, 1997, 26, 247-267.	1.7	6
75	Ytterbium Silicate Environmental Barrier Coatings Deposited Using the Solution-Based Precursor Plasma Spray. Journal of Thermal Spray Technology, 2020, 29, 979-994.	1.6	6
76	Microstructural Characteristics of Y2O3-MgO Composite Coatings Deposited by Suspension Plasma Spray. Journal of Thermal Spray Technology, 2012, 21, 1309-1321.	1.6	5
77	Transient temperature distribution in a composite with periodic microstructure. Composites Part B: Engineering, 1994, 4, 1055-1072.	0.6	4
78	Contaminant identification during laser cleaning of thermal barrier coatings. Surface and Coatings Technology, 2015, 270, 86-94.	2.2	3
79	A higher order subdomain method for finding local stress fields in composites. International Journal of Solids and Structures, 1998, 35, 5189-5203.	1.3	2
80	The Solution Precursor Plasma Spray Process for Making Durable Thermal Barrier Coatings. , 2005, , .		2
81	Differential displacement measurement using scanning x-ray beams. Review of Scientific Instruments, 1998, 69, 452-456.	0.6	1