Masayuki Arai

List of Publications by Year
in descending order

68	221	1163117 8	1125743 13
papers	citations	h-index	g-index

68	68	68	126
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A novel low-thermal-conductivity plasma-sprayed thermal barrier coating controlled by large pores. Surface and Coatings Technology, 2016, 285, 120-127.	4.8	55
2	Determination of Interfacial Fracture Toughness of Thermal Spray Coatings by Indentation. Journal of Thermal Spray Technology, 2013, 22, 1358-1365.	3.1	32
3	Simple estimation method for strain rate sensitivity based on the difference between the indentation sizes formed by spherical-shaped impactors. International Journal of Mechanical Sciences, 2021, 189, 106007.	6.7	13
4	Influence of chemical composition, grain size, and spray condition on cavitation erosion resistance of high-velocity oxygen fuel thermal-sprayed WC cermet coatings. Surface and Coatings Technology, 2020, 394, 125881.	4.8	12
5	Interfacial Fracture Toughness Evaluation of Ceramic Thermal Barrier Coatings Based on Indentation Test Method. Zairyo/Journal of the Society of Materials Science, Japan, 2009, 58, 917-923.	0.2	11
6	Expanding Cavity Model Combined With Johnsonâ€“Cook Constitutive Equation for the Dynamic Indentation Problem. Journal of Engineering Materials and Technology, Transactions of the ASME, 2020, 142, .	1.4	11
7	Microdamage-coupled inelastic deformation analysis of ceramic thermal barrier coatings subjected to tensile loading. Surface and Coatings Technology, 2016, 304, 542-552.	4.8	10
8	Numerical simulation of inelastic deformation and crack propagation in TBC-multilayered Ni-based superalloy subjected to thermo-mechanical loadings. Surface and Coatings Technology, 2020, 399, 126159.	4.8	10
9	Mechanistic Study on the Degradation of Thermal Barrier Coatings Induced by Volcanic Ash Deposition. Journal of Thermal Spray Technology, 2017, 26, 1207-1221.	3.1	8
10	Comprehensive Numerical Simulation of Stress and Damage Fields under Thermo-Mechanical Loading for TBC-Coated Ni-Based Superalloy. Key Engineering Materials, 0, 774, 137-142.	0.4	7
11	Application of distributed dislocation method to curved crack moving near a press-fitted inclusion in a two-dimensional infinite plate. Engineering Fracture Mechanics, 2019, 218, 106609.	4.3	6
12	Improvement of Oxidation Resistance and Adhesion Strength of Thermal Barrier Coating by Grinding and Grit-Blasting Treatments. Journal of Thermal Spray Technology, 2020, 29, 1728-1740.	3.1	5
13	Electrochemical Migration of Copper Caused by Volcanic Ash Deposited on Printed Circuit Boards. Journal of Electronic Materials, 2018, 47, 7179-7190.	2.2	3
14	Fusion and TBC Penetration Characteristics of Volcanic Ash Collected from Active Volcano. Journal of Thermal Spray Technology, 2020, 29, 582-596.	3.1	3
15	Numerical simulation of thermoelastic wave coupled with non-Fourier heat conduction equation. AIP Conference Proceedings, 2020, , .	0.4	3
16	Damage process of the high-temperature-exposed ceramic thermal barrier coatings under tensile loading. Transactions of the JSME (in Japanese), 2015, 81, 15-00340-15-00340.	0.2	2
17	On damage process of ceramic thermal barrier coatings subjected to high-temperature tensile loading. Transactions of the JSME (in Japanese), 2015, 81, 14-00511-14-00511.	0.2	2
18	Tensile and fatigue strength of SUS304 stainless steel repaired by a high velocity oxy-fuel thermal spraying. Transactions of the JSME (in Japanese), 2018, 84, 18-00016-18-00016.	0.2	2

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19	Numerical Simulation of Volcanic Ash Infiltration into Thermal Barrier Coatings. Key Engineering Materials, 0, 827, 367-372.	0.4	2
20	Proposal of an Estimation Method for Temperature Dependence of Flow Stress in a Wide Range of Strain Rates Based on a Difference between Indentation Sizes. Zairyo/Journal of the Society of Materials Science, Japan, 2021, 70, 698-705.	0.2	2
21	Numerical simulation on internal stress evolution based on formation of thermally grown oxide in thermal barrier coatings. Engineering Research Express, 2020, 2, 025037.	1.6	2
22	Influence of Thermal Spray Process on High Temperature Oxidation Property of CoNiCrAlY Coatings. Zairyo/Journal of the Society of Materials Science, Japan, 2016, 65, 313-318.	0.2	2
23	Numerical analysis of dynamic thermoelastic problem combined with non-Fourier heat transfer equation by finite-difference time-domain method. Transactions of the JSME (in Japanese), 2021, 87, .	0.2	2
24	Damage evolution of TBC by rapid thermal cycling test based on a laser irradiation. Transactions of the JSME (in Japanese), 2020, 86, 19-00426-19-00426.	0.2	2
25	High-Temperature Oxidation Properties of MCrAlY Coatings Formed by Atmospheric Plasma Spraying. Zairyo/Journal of the Society of Materials Science, Japan, 2016, 65, 700-705.	0.2	1
26	Study on mechanical property and adhesive strength of ice under a low temperature condition. Transactions of the JSME (in Japanese), 2017, 83, 17-00150-17-00150.	0.2	1
27	Stress intensity factor of a penny-shaped crack with small-disturbed crack front line. Mechanical Engineering Journal, 2018, 5, 18-00244-18-00244.	0.4	1
28	Creep Life Prediction Method by Using High-Temperature Indentation Creep Test. Proceedings (mdpi), 2018, 2, 450.	0.2	1
29	Delaying Effect of Fatigue Crack Propagation by Single-Pulse Laser Irradiation. Proceedings (mdpi), 2018, 2, .	0.2	1
30	On Estimation of Creep Constitutive Equation for Welded Joint by High-Temperature Indentation Creep Testing Method. Zairyo/Journal of the Society of Materials Science, Japan, 2019, 68, 607-613.	0.2	1
31	Comprehensive Numerical Simulation on Thermally Grown Oxide and Internal Stress Evolutions in Thermal Barrier Coatings. Key Engineering Materials, 2019, 827, 343-348.	0.4	1
32	O-Integral evaluation for stress intensity factor of three-dimensional planar-crack with arbitrary shape. Mechanical Engineering Journal, 2021, 8, 21-00132-21-00132.	0.4	1
33	High-temperature tensile and fatigue strength properties of stainless steel repaired by laser metal deposition method. Transactions of the JSME (in Japanese), 2021, 87, 21-00092-21-00092.	0.2	1
34	Numerical simulation of damage and inelastic deformation of porous thermal barrier coatings system. Transactions of the JSME (in Japanese), 2021, 87, 21-00086-21-00086.	0.2	1
35	Transfer matrix method for elastic-plastic problem of space-curved beam structure. Transactions of the JSME (in Japanese), 2019, 85, 19-00026-19-00026.	0.2	1
36	Characterization of thermal barrier coatings via a rockwell indentation test. AIP Conference Proceedings, 2020, , .	0.4	1

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37	Brick model for nonlinear deformation and microcracking in thermal barrier coating. Mechanical Engineering Journal, 2020, 7, 20-00010-20-00010.	0.4	1
38	Estimation of creep constitutive equation by creep indentation test using cylindrical indenter. Mechanical Engineering Journal, 2020, 7, 20-00232-20-00232.	0.4	1
39	Interfacial Elastic J Integral for Indentation Test. Zairyo/Journal of the Society of Materials Science, Japan, 2016, 65, 836-843.	0.2	0
40	Interfacial fatigue crack propagation of ceramic thermal barrier coating under a high temperature condition. Transactions of the JSME (in Japanese), 2016, 82, 15-00614-15-00614.	0.2	0
41	Deposition behaviour and its damage evaluation of natural volcanic ash deposited under a high temperature and a high gas flow condition. Transactions of the JSME (in Japanese), 2017, 83, 16-00281-16-00281.	0.2	0
42	Evaluation of deformation properties of porous thermal barrier coatings by indentation method. Transactions of the JSME (in Japanese), 2018, 84, 18-00147-18-00147.	0.2	0
43	Development of Small-Size Material Testing Device Using Shape Memory Alloy Actuator. Zairyo/Journal of the Society of Materials Science, Japan, 2019, 68, 68-73.	0.2	0
44	Effectiveness of prediction method of indentation size formed by high-velocity impingement of a solid sphere. AIP Conference Proceedings, 2020, , .	0.4	0
45	Deposition Characteristics of Free-Falling Water Droplet on a Substrate at a Low Temperature. Zairyo/Journal of the Society of Materials Science, Japan, 2020, 69, 269-276.	0.2	0
46	Evaluation of Shear Fatigue Delamination Strength of Porous Thermal Barrier Coatings by Torsion Pin-Test Method. Journal of Thermal Spray Technology, 2020, 29, 1002-1015.	3.1	0
47	J0430101 Evaluation of Fracture Toughness of Interfacial Cracks between Aluminum Alloy/PMMA by Indentation Test. The Proceedings of Mechanical Engineering Congress Japan, 2014, 2014, _J0430101--_J0430101-.	0.0	0
48	OS1204-136 High Temperature Crack Propagation Behavior of Ceramic Thermal Barrier Coatings by In-situ Observation. The Proceedings of the Materials and Mechanics Conference, 2015, 2015, _OS1204-13-_OS1204-13.	0.0	0
49	OS11-5 Damage Process of Ceramic Thermal Barrier Coatings Exposed at High Temperature under Tensile Loading(Mechanical Properties of Coatings,OS11 Reliability of heat resisting alloys and) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2015, 2015.14, 179.	0.0	0
50	OS11-1 Thermal Conductivity of Thermal Barrier Coatings with Porous microstructure(Characterization and Inspection of Coatings,OS11 Reliability of heat resisting alloys) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5 Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2015, 2015.14, 175.	0.0	0
51	GS0601-372 Stress Intensity Factor of Penny-shaped Crack with Imperfect Crack Tip Shape. The Proceedings of the Materials and Mechanics Conference, 2015, 2015, _GS0601-37-_GS0601-37.	0.0	0
52	OS7-9 Development of Small-size Tensile Testing Machine(Stress and strain measurement III,OS7 Stress) Tj ETQq0 0 0 rgBT /Overlock 10 on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2015, 2015.14, 100.	0.0	0
53	Thermal Stress Analysis of Porous Ceramic Coating Heated with Harmonic Oscillation. The Proceedings of the Materials and Mechanics Conference, 2016, 2016, OS13-05.	0.0	0
54	Study on Electromotive Force Generated in Thermal Barrier Coatings at High-Temperature. Zairyo/Journal of the Society of Materials Science, Japan, 2017, 66, 211-217.	0.2	0

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55	Interfacial elastic Jâ€‰ integral for indentation test. Mechanical Engineering Journal, 2018, 5, 18-00360-18-00360.	0.4	0
56	Evaluation of deformation properties of porous thermal barrier coatings by indentation method. The Proceedings of Mechanical Engineering Congress Japan, 2018, 2018, J0450201.	0.0	0
57	Analytical Study on Damage Evaluation of Metallic Materials Subjected to High Velocity Impingement of a Solid Particle. Zairyo/Journal of the Society of Materials Science, Japan, 2018, 67, 861-868.	0.2	0
58	Study on damage evolution of TBC by rapid thermal cycling test based on a laser irradiation. The Proceedings of the Materials and Mechanics Conference, 2019, 2019, OS0307.	0.0	0
59	Solidification process of a water droplets freely dropped on a cooled substrate and development of crack initiation and delamination models. Transactions of the JSME (in Japanese), 2019, 85, 19-00204-19-00204.	0.2	0
60	Development of estimation method of strain rate dependency of materials based on a high-velocity impingement test with a solid sphere. Transactions of the JSME (in Japanese), 2020, 86, 20-00060-20-00060.	0.2	0
61	Damage Evaluation of Thermal Barrier Coatings Subjected to a High-Velocity Impingement of a Solid Sphere under Room and High Temperature Conditions. Materials Transactions, 2021, 62, .	1.2	0
62	Transfer matrix method for curved beam structures with a few branches in three-dimensional space. AIP Conference Proceedings, 2020, , .	0.4	0
63	On estimation of pedaling torque by accelerometer attached to the leg part. The Proceedings of the Symposium on Sports and Human Dynamics, 2020, 2020, A-1-1.	0.0	0
64	Study on Control of Fatigue Crack Propagation by Pulsed Laser Irradiation. Zairyo/Journal of the Society of Materials Science, Japan, 2020, 69, 733-739.	0.2	0
65	Numerical analysis of fracture toughness in tessellated materials by continuous distributed dislocation technique. Engineering Fracture Mechanics, 2022, 261, 108192.	4.3	0
66	Thermal and mechanical properties of APS-YbTa₃O₉ thermal barrier coatings. Transactions of the JSME (in Japanese), 2022, 88, 21-00366-21-00366.	0.2	0
67	Numerical simulation of damage and inelastic deformation of porous thermal barrier coatings system under high-temperature fatigue loading condition. Transactions of the JSME (in Japanese), 2022, 88, 22-00002-22-00002.	0.2	0
68	Numerical analysis of dynamic thermoelastic two-dimensional problem combined with non-Fourier heat transfer equation by finite-difference time-domain method. Transactions of the JSME (in Japanese), 2022, , .	0.2	0