

Il Yong Kim

List of Publications by Year in descending order

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132
papers

4,130
citations

147726

31
h-index

128225

60
g-index

133
all docs

133
docs citations

133
times ranked

3153
citing authors

#	ARTICLE	IF	CITATIONS
1	Schmitt–Kim additive manufacturing evaluation tree: a guide for new users. Progress in Additive Manufacturing, 2022, 7, 375-397.	2.5	0
2	Surface and honeycomb core damage in adhesively bonded aluminum sandwich panels subjected to low-velocity impact. Composites Part B: Engineering, 2022, 230, 109506.	5.9	22
3	Multi-material topology optimization considering natural frequency constraint. Engineering Computations, 2022, 39, 2604-2629.	0.7	7
4	Integrated topology and packaging optimization for multi-phase multi-component problems. Structural and Multidisciplinary Optimization, 2022, 65, 1.	1.7	1
5	Spatial gradient interface detection in topology optimization for an unstructured mesh. Structural and Multidisciplinary Optimization, 2021, 63, 515-522.	1.7	8
6	Analysis of different RNN autoencoder variants for time series classification and machine prognostics. Mechanical Systems and Signal Processing, 2021, 149, 107322.	4.4	69
7	Material interface control in multi-material topology optimization using pseudo-cost domain method. International Journal for Numerical Methods in Engineering, 2021, 122, 455-482.	1.5	9
8	Aircraft Wing Design Through Concurrent Thickness and Material Optimization. , 2021, , .		0
9	Multi-Material Topology Optimization for Conceptual-Level Aircraft Seat Design. , 2021, , .		0
10	Simultaneous isotropic and anisotropic multi-material topology optimization for conceptual-level design of aerospace components. Structural and Multidisciplinary Optimization, 2021, 64, 441-456.	1.7	15
11	Structural design of a morphing serpentine inlet using a multi-material topology optimization methodology. Structural and Multidisciplinary Optimization, 2021, 64, 389-422.	1.7	2
12	Multi-material topology optimization considering isotropic and anisotropic materials combination. Structural and Multidisciplinary Optimization, 2021, 64, 1567-1583.	1.7	8
13	A novel method for concurrent thickness and material optimization of non-laminate structures. Structural and Multidisciplinary Optimization, 2021, 64, 1421-1437.	1.7	1
14	Part consolidation for additive manufacturing: A multilayered topology optimization approach. International Journal for Numerical Methods in Engineering, 2021, 122, 4987-5027.	1.5	3
15	Topology optimization for infill in MEx. Rapid Prototyping Journal, 2021, 27, 1580-1590.	1.6	1
16	A nonlinear-drift-driven Wiener process model for remaining useful life estimation considering three sources of variability. Reliability Engineering and System Safety, 2021, 212, 107631.	5.1	42
17	Concurrent topology and stacking sequence optimization of composite laminate plates using lamination parameters. Composite Structures, 2021, 276, 114556.	3.1	12
18	Topology Optimization of a Section of a Morphing Serpentine Aircraft Inlet. , 2021, , .		0

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19	Integrated topology and packaging optimization using coupled material and component pseudo-densities. <i>Structural and Multidisciplinary Optimization</i> , 2021, 64, 3345-3380.	1.7	2
20	3D topology optimization for cost and time minimization in additive manufacturing. <i>Structural and Multidisciplinary Optimization</i> , 2020, 61, 731-748.	1.7	28
21	Influences of the uneven contact pressure and the initial temperature on the hot judder behavior in a multi-disc clutch. <i>Proceedings of the Institution of Mechanical Engineers, Part J: Journal of Engineering Tribology</i> , 2020, 234, 500-514.	1.0	8
22	Modified element stacking method for multi-material topology optimization with anisotropic materials. <i>Structural and Multidisciplinary Optimization</i> , 2020, 61, 525-541.	1.7	26
23	Simultaneous single-loop multimaterial and multijoint topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 1558-1594.	1.5	15
24	Experimental investigation of adhesive fillet size on barely visible impact damage in metallic honeycomb sandwich panels. <i>Composites Part B: Engineering</i> , 2020, 184, 107723.	5.9	7
25	Additive manufacturing infill optimization for automotive 3D-printed ABS components. <i>Rapid Prototyping Journal</i> , 2020, 26, 89-99.	1.6	39
26	The effect of scan path on thermal gradient during selective laser melting. <i>International Journal of Advanced Manufacturing Technology</i> , 2020, 110, 1261-1274.	1.5	10
27	Assembly Level Topology Optimization Towards a Part Consolidation Algorithm for Additive Manufacturing. , 2020, , .		4
28	Displacement Controlled 2D Compliant Mechanisms for use in Morphing Structures. , 2020, , .		0
29	Void region restriction for additive manufacturing via a diffusion physics approach. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 4347-4373.	1.5	7
30	Design for additive manufacturing: 3D simultaneous topology and build orientation optimization. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 1989-2009.	1.7	9
31	A topology optimization implementation for depth-of-focus extension of binary phase filters. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 2731-2748.	1.7	7
32	Design optimization of a business aircraft seat considering static and dynamic certification loading and manufacturability. <i>Structural and Multidisciplinary Optimization</i> , 2020, 62, 3457-3476.	1.7	5
33	Simultaneous topology and build orientation optimization for minimization of additive manufacturing cost and time. <i>International Journal for Numerical Methods in Engineering</i> , 2020, 121, 3442-3481.	1.5	11
34	An improved similarity-based prognostic algorithm for RUL estimation using an RNN autoencoder scheme. <i>Reliability Engineering and System Safety</i> , 2020, 199, 106926.	5.1	151
35	Single variable-based multi-material structural optimization considering interface behavior. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 367, 113114.	3.4	7
36	Identifying optimal features for cutting tool condition monitoring using recurrent neural networks. <i>Advances in Mechanical Engineering</i> , 2020, 12, 168781402098438.	0.8	9

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37	Effect of Bulkhead Pressurization on the Vibro-Acoustic Properties of an Aft-Fuselage-Mounted Twin-Engine Aircraft. <i>Journal of Vibration and Acoustics, Transactions of the ASME</i> , 2020, 142, .	1.0	1
38	Hybrid sequential fault estimation for multi-mode diagnosis of gas turbine engines. <i>Mechanical Systems and Signal Processing</i> , 2019, 115, 255-268.	4.4	21
39	3D multi-material and multi-joint topology optimization with tooling accessibility constraints. <i>Structural and Multidisciplinary Optimization</i> , 2019, 60, 2531-2558.	1.7	27
40	Packaging optimization using the dynamic vector fields method. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 120, 860-879.	1.5	3
41	Substructuring verification of a rear fuselage mounted twin-engine aircraft. <i>Aerospace Science and Technology</i> , 2019, 93, 105305.	2.5	4
42	A time-space Kriging-based sequential metamodeling approach for multi-objective crashworthiness optimization. <i>Applied Mathematical Modelling</i> , 2019, 69, 378-404.	2.2	24
43	Remaining useful life estimation using a bidirectional recurrent neural network based autoencoder scheme. <i>Mechanical Systems and Signal Processing</i> , 2019, 129, 764-780.	4.4	236
44	Topology optimization of a pre-stiffened aircraft bulkhead. <i>Structural and Multidisciplinary Optimization</i> , 2019, 60, 1667-1685.	1.7	14
45	Multi-Objective Model Updating Optimization Considering Orthogonality. <i>Journal of Computational and Nonlinear Dynamics</i> , 2019, 14, .	0.7	2
46	An analytical study of the plasticity of sandwich honeycomb panels subjected to low-velocity impact. <i>Composites Part B: Engineering</i> , 2019, 168, 121-128.	5.9	32
47	A multiobjective topology optimization approach for cost and time minimization in additive manufacturing. <i>International Journal for Numerical Methods in Engineering</i> , 2019, 118, 371-394.	1.5	29
48	Hybrid data-driven physics-based model fusion framework for tool wear prediction. <i>International Journal of Advanced Manufacturing Technology</i> , 2019, 101, 2861-2872.	1.5	78
49	Multi-material topology optimization for practical lightweight design. <i>Structural and Multidisciplinary Optimization</i> , 2018, 58, 1081-1094.	1.7	79
50	Design optimization of aircraft landing gear assembly under dynamic loading. <i>Structural and Multidisciplinary Optimization</i> , 2018, 57, 1357-1375.	1.7	49
51	Topology Optimization of Large Scale Turbine Engine Bracket Assembly with Additive Manufacturing Considerations. , 2018, , 1211-1223.		0
52	Effect of Stiffener Configuration on Bulkhead Modal Parameters. , 2018, , .		2
53	Advanced Primal-Dual Interior-Point Method for the Method of Moving Asymptotes. , 2018, , .		2
54	Damage Assessment on the Surface and Honeycomb Core of the Aluminum Sandwich Panel Subjected to Low-Velocity Impact. , 2018, , .		0

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55	A Novel Adaptive Topology Optimization Method Considering Unnecessary Element Removal and Progressive Mesh Refinement. , 2018, , .		0
56	Minimization of Cost and Print Time of Additive Manufacturing via Topology Optimization. , 2018, , .		1
57	Coupled Multi-Material and Joint Topology Optimization: A Proof of Concept. , 2018, , .		11
58	Cutting Tool Wear Estimation Using a Genetic Algorithm Based Long Short-Term Memory Neural Network. , 2018, , .		4
59	Predictive Compressor Wash Optimization for Economic Operation of Gas Turbine. Journal of Engineering for Gas Turbines and Power, 2018, 140, .	0.5	2
60	Multimaterial multijoint topology optimization. International Journal for Numerical Methods in Engineering, 2018, 115, 1552-1579.	1.5	32
61	Advanced Finite Element Analysis of a Lightweight Nanometal-Polymer Hybrid Component with Experimental Validation, and Its Applications to Vehicle Lightweighting. , 2018, , .		1
62	Multi-material topology optimization for automotive design problems. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2018, 232, 1950-1969.	1.1	49
63	Topology and Cost Optimization Applied to Develop New Designs for a Monorail Structure. , 2018, , 1143-1155.		0
64	Influence of the Initial Temperature on the Clutch Hot Judder. , 2018, , .		0
65	System Level Design Optimization Method for Lightweight Manufacturable Design. , 2018, , .		0
66	Computational Modal Analysis of a Twin-Engine Rear Fuselage Mounted Aircraft Support Frame. , 2017, , .		1
67	Topology, size and shape optimization of an automotive cross car beam. Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, 2015, 229, 1361-1378.	1.1	45
68	Conceptual and detailed design of an automotive engine cradle by using topology, shape, and size optimization. Structural and Multidisciplinary Optimization, 2015, 51, 547-564.	1.7	94
69	Influence of operating conditions on the optimum design of electric vehicle battery cooling plates. Journal of Power Sources, 2014, 245, 644-655.	4.0	198
70	Improvement in robustness and computational efficiency of material models for finite element analysis of metal powder compaction and experimental validation. International Journal of Advanced Manufacturing Technology, 2013, 68, 1785-1795.	1.5	7
71	Optimal damping layout in a shell structure using topology optimization. Journal of Sound and Vibration, 2013, 332, 2873-2883.	2.1	72
72	The development, calibration and validation of a numerical total knee replacement kinematics simulator considering laxity and unconstrained flexion motions. Computer Methods in Biomechanics and Biomedical Engineering, 2012, 15, 585-593.	0.9	5

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73	Quantifying the competing relationship between durability and kinematics of total knee replacements using multiobjective design optimization and validated computational models. <i>Journal of Biomechanics</i> , 2012, 45, 141-147.	0.9	18
74	A new efficient convergence criterion for reducing computational expense in topology optimization: reducible design variable method. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 90, 752-783.	1.5	37
75	Design optimization of electric vehicle battery cooling plates for thermal performance. <i>Journal of Power Sources</i> , 2011, 196, 10359-10368.	4.0	422
76	Computational Simulation of Bone Remodeling using Design Space Topology Optimization. <i>Proceedings in Applied Mathematics and Mechanics</i> , 2011, 11, 97-98.	0.2	0
77	Greenhouse gases emitted in manufacturing a product—A new economic model. <i>CIRP Annals - Manufacturing Technology</i> , 2011, 60, 53-56.	1.7	53
78	Three-dimensional micro-level computational study of Wolff's law via trabecular bone remodeling in the human proximal femur using design space topology optimization. <i>Journal of Biomechanics</i> , 2011, 44, 935-942.	0.9	112
79	Design optimization of a total knee replacement for improved constraint and flexion kinematics. <i>Journal of Biomechanics</i> , 2011, 44, 1014-1020.	0.9	40
80	Comparison of different hip prosthesis shapes considering micro-level bone remodeling and stress-shielding criteria using three-dimensional design space topology optimization. <i>Journal of Biomechanics</i> , 2011, 44, 1722-1728.	0.9	76
81	Computational simulation of simultaneous cortical and trabecular bone change in human proximal femur during bone remodeling. <i>Journal of Biomechanics</i> , 2010, 43, 294-301.	0.9	55
82	Computational study on the effect of loading alteration caused by disc degeneration on the trabecular architecture in human lumbar spine. <i>Journal of Biomechanics</i> , 2010, 43, 492-499.	0.9	19
83	Application of design space optimization to bone remodeling simulation of trabecular architecture in human proximal femur for higher computational efficiency. <i>Finite Elements in Analysis and Design</i> , 2010, 46, 311-319.	1.7	33
84	Analogy of Strain Energy Density Based Bone-Remodeling Algorithm and Structural Topology Optimization. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 011012.	0.6	48
85	Total Hip Wear Assessment: A Comparison Between Computational and In Vitro Wear Assessment Techniques Using ISO 14242 Loading and Kinematics. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 041011.	0.6	27
86	Design Optimization of a Total Hip Prosthesis for Wear Reduction. <i>Journal of Biomechanical Engineering</i> , 2009, 131, 051003.	0.6	30
87	Computational simulation of trabecular adaptation progress in human proximal femur during growth. <i>Journal of Biomechanics</i> , 2009, 42, 573-580.	0.9	32
88	Three dimensional shape optimization of total knee replacements for reduced wear. <i>Structural and Multidisciplinary Optimization</i> , 2009, 38, 405-414.	1.7	47
89	Uniaxial high-temperature creep property predictions made by CDM and MPC omega techniques for ASME SA 455 steel. <i>Engineering Failure Analysis</i> , 2009, 16, 1303-1313.	1.8	13
90	A holistic numerical model to predict strain hardening and damage of UHMWPE under multiple total knee replacement kinematics and experimental validation. <i>Journal of Biomechanics</i> , 2009, 42, 2520-2527.	0.9	38

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91	Stress rupture predictions of pressure vessels exposed to fully engulfing and local impingement accidental fire heat loads. <i>Engineering Failure Analysis</i> , 2009, 16, 1141-1152.	1.8	33
92	Multi-objective shape optimisation of an automotive universal joint assembly. <i>International Journal of Heavy Vehicle Systems</i> , 2009, 16, 271.	0.1	1
93	Computational study of Wolff's law with trabecular architecture in the human proximal femur using topology optimization. <i>Journal of Biomechanics</i> , 2008, 41, 2353-2361.	0.9	124
94	Multiobjective Design Optimization of Total Knee Replacements Considering UHMWPE Damage and Kinematics. , 2008, , .		0
95	Computational Simulation for Trabecular Adaptation in Human Proximal Femur Using Design Space Optimization. , 2008, , .		0
96	Multidisciplinary design optimization of a zero-emission vehicle chassis considering crashworthiness and hydroformability. <i>Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering</i> , 2007, 221, 511-526.	1.1	11
97	Flexible platform component design under uncertainty. <i>Journal of Intelligent Manufacturing</i> , 2007, 18, 115-126.	4.4	47
98	Shape optimization of an Un-cemented Total Hip Replacement Prosthesis Considering Volumetric Wear. , 2006, , .		2
99	Design Optimization of an Automotive Universal Joint as an Assembly. , 2006, , .		1
100	Adaptive weighted sum method for multiobjective optimization: a new method for Pareto front generation. <i>Structural and Multidisciplinary Optimization</i> , 2006, 31, 105-116.	1.7	339
101	Adaptive weighted-sum method for bi-objective optimization: Pareto front generation. <i>Structural and Multidisciplinary Optimization</i> , 2005, 29, 149-158.	1.7	481
102	Variable chromosome length genetic algorithm for progressive refinement in topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2005, 29, 445-456.	1.7	93
103	Variable Chromosome Length Genetic Algorithm for Structural Topology Design Optimization. , 2004, , .		11
104	Design for Flexibility: Performance and Economic Optimization of Product Platform Components. , 2004, , .		7
105	Multidisciplinary Structural Truss Topology Optimization for Reconfigurability. , 2004, , .		9
106	Continuum Topology Optimization. , 2004, , .		1
107	Structural Shape Optimization Considering Both Performance and Manufacturing Cost. , 2004, , .		21
108	Optimization and Numerical Flow Analysis of a Valveless Micropump. <i>JSME International Journal Series C-Mechanical Systems Machine Elements and Manufacturing</i> , 2003, 46, 772-778.	0.3	1

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109	An Evolutionary Method of Topology Optimal Design by Increasing and Decreasing the Number of Design Variables. , 2002, , .		0
110	Design space optimization using a numerical design continuation method. International Journal for Numerical Methods in Engineering, 2002, 53, 1979-2002.	1.5	78
111	Blurring effect analysis of an x-ray mask for synchrotron radiation lithography. Journal of Vacuum Science & Technology an Official Journal of the American Vacuum Society B, Microelectronics Processing and Phenomena, 1998, 16, 1992.	1.6	1
112	Novel x-ray mask structure with low out-of-plane distortion. , 1998, 3331, 511.		0
113	Lightweight Optimal Design of a Rear Bumper System Based on Surrogate Models. , 0, , .		7
114	Multi-Material Topology Optimization: A Practical Approach and Application. , 0, , .		17
115	Advancements to commercial 2D infill for lightweighting of structural FDM components. Progress in Additive Manufacturing, 0, , 1.	2.5	1
116	Automotive Hood Panel Design Utilizing Anisotropic Multi-Material Topology Optimization. SAE International Journal of Advances and Current Practices in Mobility, 0, 3, 2658-2665.	2.0	3
117	Multi-Material Topology Optimization Considering Draw Direction Constraints. , 0, , .		4
118	Control Arm Design Utilizing Multi-Material Topology Optimization. , 0, , .		1
119	Multi-Joint Topology Optimization: A Method for Considering Joining in Multi-Material Design. , 0, , .		2
120	Topology, size and shape optimization of an automotive cross car beam. , 0, .		1
121	A Comparison of Lightweight Design Concepts of a Passenger Aircraft Seat Using Topology and CFRP Laminate Optimization. , 0, , .		6
122	Multi-Material Topology Optimization: A Practical Method for Efficient Material Selection and Design. , 0, , .		11
123	Multi-Material Topology Optimization and Multi-Material Selection in Design. , 0, , .		6
124	Multi-Material Topology Optimization as a Concept Generation and Design Tool. , 0, , .		11
125	Additive Manufacturing Experimental Infill Testing and Optimization for Automotive Lightweighting. , 0, , .		2
126	Motorcycle Chassis Design Utilizing Multi-Material Topology Optimization. SAE International Journal of Advances and Current Practices in Mobility, 0, 2, 1905-1912.	2.0	12

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127	Multi-Material Topology Optimization Considering Manufacturing Constraints. , 0, , .		13
128	Damping of Powder Metal Rings. SAE International Journal of Vehicle Dynamics, Stability, and NVH, 0, 4, .	0.5	1
129	Validation of a Low Fidelity Catenary Model Developed Using a Novel Optimization Algorithm. , 0, , .		0
130	An Optimization Method to Find the Initial Catenary Configuration by Using a Gradient-Based Algorithm. , 0, , .		0
131	A Generalized Consolidated Topology Optimization and DfAM Design Approach and its Application for Assembly Design. , 0, , .		1
132	Simultaneous Free-Size, Gauge, and Composite Optimization for Automotive Chassis Design. , 0, , .		0