

# Hyunsun A Kim

## List of Publications by Year in descending order

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Version: 2024-02-01

56  
papers

2,820  
citations

218677

26  
h-index

223800

46  
g-index

61  
all docs

61  
docs citations

61  
times ranked

2673  
citing authors

#	ARTICLE	IF	CITATIONS
1	Piezoelectric and ferroelectric materials and structures for energy harvesting applications. <i>Energy and Environmental Science</i> , 2014, 7, 25-44.	30.8	926
2	Introducing Loading Uncertainty in Topology Optimization. <i>AIAA Journal</i> , 2011, 49, 760-768.	2.6	123
3	Optimal configurations of bistable piezo-composites for energy harvesting. <i>Applied Physics Letters</i> , 2012, 100, .	3.3	110
4	Bistable composite laminates: Effects of laminate composition on cured shape and response to thermal load. <i>Composite Structures</i> , 2010, 92, 2220-2225.	5.8	101
5	Characterisation and modelling of the cured shapes of arbitrary layup bistable composite laminates. <i>Composite Structures</i> , 2010, 92, 1694-1700.	5.8	101
6	Robust Topology Optimization: Minimization of Expected and Variance of Compliance. <i>AIAA Journal</i> , 2013, 51, 2656-2664.	2.6	97
7	Introducing the sequential linear programming level-set method for topology optimization. <i>Structural and Multidisciplinary Optimization</i> , 2015, 51, 631-643.	3.5	94
8	Morphing and Shape Control using Unsymmetrical Composites. <i>Journal of Intelligent Material Systems and Structures</i> , 2007, 18, 89-98.	2.5	83
9	New optimization method for steered fiber composites using the level set method. <i>Structural and Multidisciplinary Optimization</i> , 2015, 52, 493-505.	3.5	75
10	Experimental analysis of the dynamical response of energy harvesting devices based on bistable laminated plates. <i>Meccanica</i> , 2015, 50, 1961-1970.	2.0	69
11	Modeling and characterization of piezoelectrically actuated bistable composites. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2011, 58, 1737-1750.	3.0	62
12	A new hole insertion method for level set based structural topology optimization. <i>International Journal for Numerical Methods in Engineering</i> , 2013, 93, 118-134.	2.8	58
13	Modelling of piezoelectrically actuated bistable composites. <i>Materials Letters</i> , 2011, 65, 1261-1263.	2.6	55
14	Investigation and improvement of sensitivity computation using the area-fraction weighted fixed grid FEM and structural optimization. <i>Finite Elements in Analysis and Design</i> , 2011, 47, 933-941.	3.2	55
15	Sensitivity of bistable laminates to uncertainties in material properties, geometry and environmental conditions. <i>Composite Structures</i> , 2013, 102, 276-286.	5.8	55
16	Level-set topology optimization with many linear buckling constraints using an efficient and robust eigensolver. <i>International Journal for Numerical Methods in Engineering</i> , 2016, 107, 1029-1053.	2.8	54
17	Shape Memory Alloy-Piezoelectric Active Structures for Reversible Actuation of Bistable Composites. <i>AIAA Journal</i> , 2010, 48, 1265-1268.	2.6	53
18	Virtual visual sensors and their application in structural health monitoring. <i>Structural Health Monitoring</i> , 2014, 13, 251-264.	7.5	51

#	ARTICLE	IF	CITATIONS
19	Characterisation of actuation properties of piezoelectric bi-stable carbon-fibre laminates. Composites Part A: Applied Science and Manufacturing, 2008, 39, 697-703.	7.6	50
20	Coupled aerostructural topology optimization using a level set method for 3D aircraft wings. Structural and Multidisciplinary Optimization, 2015, 51, 1113-1132.	3.5	48
21	Introduction of fixed grid in evolutionary structural optimisation. Engineering Computations, 2000, 17, 427-439.	1.4	42
22	An evaluative study on ESO and SIMP for optimising a cantilever tie-beam. Structural and Multidisciplinary Optimization, 2007, 34, 403-414.	3.5	40
23	Level-set topology optimization considering nonlinear thermoelasticity. Computer Methods in Applied Mechanics and Engineering, 2020, 361, 112735.	6.6	36
24	Improving efficiency of evolutionary structural optimization by implementing fixed grid mesh. Structural and Multidisciplinary Optimization, 2002, 24, 441-448.	3.5	32
25	Modeling and optimization of bistable composite laminates for piezoelectric actuation. Journal of Intelligent Material Systems and Structures, 2011, 22, 2181-2191.	2.5	29
26	A method for varying the number of cavities in an optimized topology using Evolutionary Structural Optimization. Structural and Multidisciplinary Optimization, 2000, 19, 140-147.	3.5	27
27	On the development of structural optimisation and its relevance in engineering design. Design Studies, 2002, 23, 85-102.	3.1	24
28	Topology optimization of vibrational piezoelectric energy harvesters for structural health monitoring applications. Journal of Intelligent Material Systems and Structures, 2019, 30, 2894-2907.	2.5	20
29	A Study of Bistable Laminates of Generic Layup for Adaptive Structures. Strain, 2012, 48, 235-240.	2.4	19
30	A fast method for binary programming using first-order derivatives, with application to topology optimization with buckling constraints. International Journal for Numerical Methods in Engineering, 2012, 92, 1026-1043.	2.8	19
31	Aeroelastic tailoring of a plate wing with functionally graded materials. Journal of Fluids and Structures, 2014, 51, 292-312.	3.4	19
32	Structural Assessment of Advanced Tow-Steered Shells. , 2013, , .		18
33	Optimization of composite stiffened panels subject to compression and lateral pressure using a bi-level approach. Structural and Multidisciplinary Optimization, 2008, 36, 235-245.	3.5	17
34	Optimization of Stiffness Characteristics for the Design of Bistable Composite Laminates. AIAA Journal, 2012, 50, 2211-2218.	2.6	16
35	Non-invasive damage detection in beams using marker extraction and wavelets. Mechanical Systems and Signal Processing, 2014, 49, 13-23.	8.0	16
36	Simultaneous optimisation of structural topology and material grading using level set method. Materials Science and Technology, 2015, 31, 884-894.	1.6	16

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37	Topology optimization of nonlinear periodically microstructured materials for tailored homogenized constitutive properties. <i>Composite Structures</i> , 2021, 266, 113729.	5.8	15
38	Modelling the Dynamic Response of Bistable Composite Plates for Piezoelectric Energy Harvesting. , 2014, , .		14
39	Active Composites based on Bistable Laminates. <i>Procedia Engineering</i> , 2014, 75, 140-144.	1.2	14
40	Manufacture and Characterisation of Piezoelectric Broadband Energy Harvesters Based on Asymmetric Bistable Cantilever Laminates. <i>Ferroelectrics</i> , 2015, 480, 67-76.	0.6	12
41	Actuation of Bistable Laminates by Conductive Polymer Nanocomposites for use in Thermal-Mechanical Aerosurface De-icing Systems. , 2014, , .		11
42	Special issue on optimization of aerospace structures. <i>Structural and Multidisciplinary Optimization</i> , 2008, 36, 1-2.	3.5	10
43	Investigation of cancellous bone architecture using structural optimisation. <i>Journal of Biomechanics</i> , 2008, 41, 629-635.	2.1	9
44	Piezoelectric Fibres Integrated into Structural Composites. <i>Ferroelectrics</i> , 2014, 466, 14-20.	0.6	6
45	2D composites based on [011]-poled relaxor-ferroelectric single crystals: analysis of the piezoelectric anisotropy and squared figures of merit for energy harvesting applications. <i>Microsystem Technologies</i> , 2014, 20, 709-717.	2.0	4
46	Investigation of External Airbags for Rotorcraft Crashworthiness. <i>Journal of Aircraft</i> , 2006, 43, 809-816.	2.4	3
47	Robust Topology Optimisation with Generalised Probability Distribution of Loading. , 2013, , .		3
48	Introducing a discrete modelling technique for buckling of panels under combined loading. <i>Structural and Multidisciplinary Optimization</i> , 2008, 36, 3-13.	3.5	2
49	Investigation of Aligned Conductive Polymer Nanocomposites for Actuation of Bistable Laminates. , 2015, , .		2
50	Stress Minimization Using The Level Set Topology Optimization. , 2017, , .		2
51	Characterisation of Force-Deflection Behaviour of Piezoelectrically Actuated Bistable Composite Laminate under Two-Axis Constraint. <i>Advances in Science and Technology</i> , 2008, 56, 380-385.	0.2	1
52	Aeroelastic Tailoring of a Plate Wing with Functionally Graded Materials. , 2014, , .		1
53	Determination of an optimal topology with a predefined number of cavities. <i>AIAA Journal</i> , 2002, 40, 739-744.	2.6	1
54	Bimodal Buckling of Optimised Truss-Lattice Shear Panels. <i>AIAA Journal</i> , 2008, 46, 1937-1943.	2.6	0

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55	Postbuckling of truss-lattice shear panels using exact theory. Journal of Mechanics of Materials and Structures, 2008, 3, 995-1009.	0.6	0
56	Applications of 3D Level Set Topology Optimization. , 2012, , .		0