

Jasbir S Arora

List of Publications by Year in descending order

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60
papers

3,695
citations

186209

28
h-index

161767

54
g-index

62
all docs

62
docs citations

62
times ranked

2915
citing authors

#	ARTICLE	IF	CITATIONS
1	The weighted sum method for multi-objective optimization: new insights. <i>Structural and Multidisciplinary Optimization</i> , 2010, 41, 853-862.	1.7	1,111
2	Methods of Design Sensitivity Analysis in Structural Optimization. <i>AIAA Journal</i> , 1979, 17, 970-974.	1.5	269
3	A study of mathematical programming methods for structural optimization. Part I: Theory. <i>International Journal for Numerical Methods in Engineering</i> , 1985, 21, 1583-1599.	1.5	264
4	A review of optimization of structures subjected to transient loads. <i>Structural and Multidisciplinary Optimization</i> , 2006, 31, 81-95.	1.7	177
5	Function-transformation methods for multi-objective optimization. <i>Engineering Optimization</i> , 2005, 37, 551-570.	1.5	130
6	Design sensitivity analysis of elastic mechanical systems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1978, 15, 35-62.	3.4	119
7	Physics-based modeling and simulation of human walking: a review of optimization-based and other approaches. <i>Structural and Multidisciplinary Optimization</i> , 2010, 42, 1-23.	1.7	106
8	Predictive dynamics: an optimization-based novel approach for human motion simulation. <i>Structural and Multidisciplinary Optimization</i> , 2010, 41, 465-479.	1.7	101
9	Human lifting simulation using a multi-objective optimization approach. <i>Multibody System Dynamics</i> , 2010, 23, 431-451.	1.7	94
10	Optimization-based dynamic human walking prediction: One step formulation. <i>International Journal for Numerical Methods in Engineering</i> , 2009, 79, 667-695.	1.5	86
11	Variational principle for shape design sensitivity analysis. <i>AIAA Journal</i> , 1992, 30, 538-547.	1.5	77
12	A study of mathematical programming methods for structural optimization. Part II: Numerical results. <i>International Journal for Numerical Methods in Engineering</i> , 1985, 21, 1601-1623.	1.5	76
13	Optimization-based prediction of asymmetric human gait. <i>Journal of Biomechanics</i> , 2011, 44, 683-693.	0.9	76
14	A recursive quadratic programming method with active set strategy for optimal design. <i>International Journal for Numerical Methods in Engineering</i> , 1984, 20, 803-816.	1.5	72
15	OPTIMAL DESIGN WITH DISCRETE VARIABLES: SOME NUMERICAL EXPERIMENTS. <i>International Journal for Numerical Methods in Engineering</i> , 1997, 40, 165-188.	1.5	71
16	Computational design optimization: A review and future directions. <i>Structural Safety</i> , 1990, 7, 131-148.	2.8	54
17	A genetic algorithm for sequencing type problems in engineering design. <i>International Journal for Numerical Methods in Engineering</i> , 1997, 40, 3105-3115.	1.5	51
18	Optimization-based motion prediction of mechanical systems: sensitivity analysis. <i>Structural and Multidisciplinary Optimization</i> , 2009, 37, 595-608.	1.7	50

#	ARTICLE	IF	CITATIONS
19	Uses of artificial intelligence in design optimization. Computer Methods in Applied Mechanics and Engineering, 1986, 54, 303-323.	3.4	48
20	Use of multi-objective optimization for digital human posture prediction. Engineering Optimization, 2009, 41, 925-943.	1.5	44
21	A Computational Study of Transformation Methods for Optimal Design. AIAA Journal, 1984, 22, 535-542.	1.5	42
22	Optimal Design of Latticed Towers Subjected to Earthquake Loading. Journal of Structural Engineering, 2002, 128, 197-204.	1.7	41
23	Dynamic Motion Planning of 3D Human Locomotion Using Gradient-Based Optimization. Journal of Biomechanical Engineering, 2008, 130, 031002.	0.6	37
24	Optimal Design of H-Frame Transmission Poles for Earthquake Loading. Journal of Structural Engineering, 1999, 125, 1299-1308.	1.7	36
25	Dynamic motion planning of overarm throw for bipedal human multibody system. Multibody System Dynamics, 2010, 24, 1-24.	1.7	36
26	Hybrid predictive dynamics: a new approach to simulate human motion. Multibody System Dynamics, 2012, 28, 199-224.	1.7	36
27	Eigensolution for large structural systems with substructures. International Journal for Numerical Methods in Engineering, 1980, 15, 333-341.	1.5	30
28	Optimal design of large structures for damage tolerance. AIAA Journal, 1980, 18, 563-570.	1.5	28
29	Analysis of optimality criteria and gradient projection methods for optimal structural design. Computer Methods in Applied Mechanics and Engineering, 1980, 23, 185-213.	3.4	25
30	Optimization of large-scale truss structures using sparse SAND formulations. International Journal for Numerical Methods in Engineering, 2007, 69, 390-407.	1.5	24
31	3D HUMAN LIFTING MOTION PREDICTION WITH DIFFERENT PERFORMANCE MEASURES. International Journal of Humanoid Robotics, 2012, 09, 1250012.	0.6	24
32	Predictive simulation of human walking transitions using an optimization formulation. Structural and Multidisciplinary Optimization, 2012, 45, 759-772.	1.7	23
33	An algorithm for engineering design optimization. International Journal for Numerical Methods in Engineering, 1983, 19, 841-858.	1.5	17
34	A sensitivity interpretation of adjoint variables in optimal design. Computer Methods in Applied Mechanics and Engineering, 1985, 48, 81-89.	3.4	17
35	Potential of Transformation Methods in Optimal Design. AIAA Journal, 1981, 19, 1372-1374.	1.5	16
36	Optimal control of HVAC systems using DDP and NLP techniques. Optimal Control Applications and Methods, 1996, 17, 71-78.	1.3	16

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37	Study of variational inequality and equality formulations for elastostatic frictional contact problems. Archives of Computational Methods in Engineering, 2000, 7, 387-449.	6.0	16
38	Alternative Formulations for Structural Optimization: An Evaluation Using Frames. Journal of Structural Engineering, 2006, 132, 1880-1889.	1.7	16
39	Several simultaneous formulations for transient dynamic response optimization: An evaluation. International Journal for Numerical Methods in Engineering, 2009, 80, 631-650.	1.5	14
40	Concurrent motion planning and reaction load distribution for redundant dynamic systems under external holonomic constraints. International Journal for Numerical Methods in Engineering, 2011, 88, 47-65.	1.5	14
41	Comparison of methods for design sensitivity analysis for optimal control of thermal systems. Optimal Control Applications and Methods, 1993, 14, 17-37.	1.3	12
42	Discussion: "An Investigation of Pshenichnyi's Recursive Quadratic Programming Method for Engineering Optimization" (Gabriele, G. A., and Beltracchi, T. J., 1987, ASME J. Mech. Transm. Autom. Des.,) Tj ETQq 200 rg BT/Overloc	0.0	0
43	Backward walking simulation of humans using optimization. Structural and Multidisciplinary Optimization, 2014, 50, 169-179.	1.7	10
44	Explicit and Implicit Methods for Design Sensitivity Analysis of Nonlinear Structures Under Dynamic Loads. Applied Mechanics Reviews, 1997, 50, S11-S19.	4.5	9
45	Interactive Design Optimization of Structural Systems. Lecture Notes in Engineering, 1989, , 10-16.	0.1	8
46	Constrained conjugate directions methods for design optimization of large systems. AIAA Journal, 1993, 31, 388-395.	1.5	7
47	An Optimization-Based Methodology to Predict Digital Human Gait Motion. , 2005, , .		7
48	Dynamic Optimization of Human Running With Analytical Gradients. Journal of Computational and Nonlinear Dynamics, 2015, 10, .	0.7	7
49	Discrete variable optimization of structures subjected to dynamic loads using equivalent static loads and metaheuristic algorithms. Optimization and Engineering, 2022, 23, 643-687.	1.3	7
50	Optimization of Elevated Concrete Foundations for Vibrating Machines. Journal of Structural Engineering, 2002, 128, 1470-1479.	1.7	5
51	Optimization-based dynamic 3D human running prediction: effects of foot location and orientation. Robotica, 2015, 33, 413-435.	1.3	5
52	EFFICIENT TREATMENT OF CONSTRAINTS IN LARGE-SCALE STRUCTURAL OPTIMIZATION. Engineering Optimization, 1981, 5, 105-119.	1.5	4
53	DISCRETE STRUCTURAL OPTIMIZATION WITH COMMERCIALY AVAILABLE SECTIONS. Doboku Gakkai Ronbunshu, 1996, 1996, 1-18.	0.2	4
54	Reply by Authors to G.N. Vanderplaats. AIAA Journal, 1980, 18, 1407-1408.	1.5	3

#	ARTICLE	IF	CITATIONS
55	Basic Concepts of Computational Methods for Optimum Design. , 1997, , 291-302.		1
56	Throwing motion generation of a biped human model. , 2008, , .		1
57	Optimal Design of Lattice Towers Under Earthquake Loading. , 2000, , 1.		0
58	A New Approach for Conceptual Design of Structural Systems. , 2001, , 48.		0
59	INTRODUCTION TO OPTIMIZATION. , 2007, , 1-34.		0
60	SENSITIVITY-FREE FORMULATIONS FOR STRUCTURAL AND MECHANICAL SYSTEM OPTIMIZATION. , 2007, , 415-444.		0