

Federico Gutiérrez-Solana

List of Publications by Year in descending order

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72
papers

848
citations

516215

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all docs

72
docs citations

72
times ranked

595
citing authors

#	ARTICLE	IF	CITATIONS
1	Implications of the yield stress/tensile stress ratio to the SINTAP failure assessment diagrams for homogeneous materials. <i>Engineering Fracture Mechanics</i> , 2000, 67, 547-562.	2.0	67
2	Dynamic behaviour of railway fastening setting pads. <i>Engineering Failure Analysis</i> , 2007, 14, 364-373.	1.8	51
3	Structural integrity assessment of components subjected to low constraint conditions. <i>Engineering Fracture Mechanics</i> , 2008, 75, 3038-3059.	2.0	47
4	Absorption and diffusion of humidity in fiberglass-reinforced polyamide. <i>Polymer Composites</i> , 2005, 26, 580-586.	2.3	46
5	Engineering approaches for the assessment of low constraint fracture conditions: A critical review. <i>Engineering Fracture Mechanics</i> , 2010, 77, 1360-1374.	2.0	36
6	FITNET FFS procedure: A unified European procedure for structural integrity assessment. <i>Engineering Failure Analysis</i> , 2009, 16, 559-577.	1.8	34
7	Effect of clamping force on the fatigue behaviour of punched plates subjected to axial loading. <i>Engineering Failure Analysis</i> , 2006, 13, 271-281.	1.8	33
8	Fatigue failure of short glass fibre reinforced PA 6.6 structural pieces for railway track fasteners. <i>Engineering Failure Analysis</i> , 2006, 13, 182-197.	1.8	33
9	Fatigue behaviour of punched structural plates. <i>Engineering Failure Analysis</i> , 2004, 11, 751-764.	1.8	30
10	Analysis of key factors for the interpretation of small punch test results*. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2008, 31, 841-849.	1.7	29
11	Environmental factors in failure during structural steel hot-dip galvanizing. <i>Engineering Failure Analysis</i> , 2009, 16, 585-595.	1.8	25
12	A finite element simulation methodology of the fatigue behaviour of punched and drilled plate components. <i>Engineering Failure Analysis</i> , 2004, 11, 737-750.	1.8	23
13	Determination of the mechanical properties of normal and calcified human mitral chordae tendineae. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2012, 13, 1-13.	1.5	22
14	Influence of the Flame Straightening Process on Microstructural, Mechanical and Fracture Properties of S235 JR, S460 ML and S690 QL Structural Steels. <i>Experimental Mechanics</i> , 2013, 53, 893-909.	1.1	22
15	Machine learning algorithms for the prediction of non-metallic inclusions in steel wires for tire reinforcement. <i>Journal of Intelligent Manufacturing</i> , 2021, 32, 1739-1751.	4.4	22
16	Experimental analysis of differences in mechanical behaviour of cracked and notched specimens in a ferritic-pearlitic steel: Considerations about the notch effect on structural integrity. <i>Engineering Failure Analysis</i> , 2009, 16, 2450-2466.	1.8	20
17	Failure Analysis of High Strength Galvanized Bolts Used in Steel Towers. <i>Metals</i> , 2016, 6, 163.	1.0	18
18	The effects of microstructure, strength level, and crack propagation mode on stress corrosion cracking behavior of 4135 steel. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1996, 27, 281-290.	1.1	17

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19	Analysis levels within the SINTAP defect assessment procedures. <i>Engineering Fracture Mechanics</i> , 2000, 67, 515-527.	2.0	16
20	Stress corrosion cracking of structural steels immersed in hot-dip galvanizing baths. <i>Engineering Failure Analysis</i> , 2010, 17, 19-27.	1.8	16
21	An elastic-plastic fracture mechanics based methodology to characterize cracking behavior and its application to environmental assisted processes. <i>Nuclear Engineering and Design</i> , 1999, 188, 185-202.	0.8	15
22	A strain-based fracture model for stress corrosion cracking of low-alloy steels. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 1996, 27, 291-304.	1.1	12
23	Optimisation of heat treatment for improvement of IGSCC properties of an X-750 alloy. <i>Engineering Failure Analysis</i> , 2004, 11, 799-810.	1.8	12
24	Machine learning algorithms for the prediction of the strength of steel rods: an example of data-driven manufacturing in steelmaking. <i>International Journal of Computer Integrated Manufacturing</i> , 2020, 33, 880-894.	2.9	12
25	Correlation between impact resistance and fracture toughness in aged duplex stainless steels. <i>European Structural Integrity Society</i> , 2002, 30, 87-94.	0.1	10
26	The assessment of fatigue damage on short-fiber-glass reinforced polyamides (PA) through the surface roughness evolution. <i>Polymer Composites</i> , 2006, 27, 349-359.	2.3	10
27	Validation and application of the Master Curve and reconstitution techniques to a Spanish nuclear vessel. <i>Engineering Fracture Mechanics</i> , 2009, 76, 2495-2511.	2.0	10
28	Machine Learning Methods for the Prediction of the Inclusion Content of Clean Steel Fabricated by Electric Arc Furnace and Rolling. <i>Metals</i> , 2021, 11, 914.	1.0	10
29	Application of Small Punch Techniques for the Determination of Gold Mechanical Properties. <i>Strain</i> , 2011, 47, e484.	1.4	9
30	Fatigue damage analysis based on energy parameters in reinforced polyamide. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2012, 35, 683-691.	1.7	8
31	Fatigue behavior enhancement of short fiber glass reinforced polyamide by adding phase change materials. <i>Composites Part B: Engineering</i> , 2016, 93, 115-122.	5.9	8
32	Hydrogen embrittlement processes in microalloyed steel notched tensile samples. <i>Theoretical and Applied Fracture Mechanics</i> , 2021, 112, 102878.	2.1	8
33	Modelling the stress corrosion cracking of low alloy steels. <i>Corrosion Science</i> , 1993, 35, 499-505.	3.0	7
34	A Gurson-Tvergaard based model to simulate the fracture of aged duplex stainless steels. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2004, 27, 1171-1182.	1.7	7
35	Failure analysis of a hip implant by using the FITNET fitness for service procedure. <i>Engineering Fracture Mechanics</i> , 2007, 74, 688-702.	2.0	7
36	Structural integrity assessment of a nuclear vessel with FITNET FFS and Master Curve approach. <i>Engineering Failure Analysis</i> , 2010, 17, 259-269.	1.8	6

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37	Optimization of the Fabrication of Cold Drawn Steel Wire Through Classification and Clustering Machine Learning Algorithms. IEEE Access, 2019, 7, 141689-141700.	2.6	6
38	Design and validation of a device for tensile and toughness tests of specimens immersed in liquid zinc. Engineering Failure Analysis, 2008, 15, 229-236.	1.8	5
39	A micromechanical model of the cracking failure on structural steel components during hot-dip galvanizing. Surface and Coatings Technology, 2016, 286, 335-346.	2.2	5
40	Mechanical behavior of recycled reinforced polyamide railway fasteners. Polymer Composites, 2010, 31, 1142-1149.	2.3	4
41	Fracture characterisation of a nuclear vessel steel under dynamic conditions in the transition region. Engineering Failure Analysis, 2010, 17, 464-472.	1.8	4
42	Analysis of dynamic conditions during thermal transient events for the structural assessment of a nuclear vessel. Engineering Failure Analysis, 2010, 17, 894-905.	1.8	4
43	Transition Region of Nuclear Vessel Steels: Master Curve Approach Using Small Punch Notched Specimens. Key Engineering Materials, 2017, 734, 77-86.	0.4	4
44	Development and experimental validation of a simplified Finite Element methodology to simulate the response of steel beams subjected to flame straightening. Construction and Building Materials, 2017, 137, 535-547.	3.2	4
45	Rate effects on the estimation of fracture toughness by small punch tests in hydrogen embrittlement. Journal of Strain Analysis for Engineering Design, 2019, 54, 390-400.	1.0	4
46	Time optimization of the step loading technique in hydrogen embrittlement small punch tests. Theoretical and Applied Fracture Mechanics, 2022, 117, 103206.	2.1	4
47	Application of machine learning algorithms for the optimization of the fabrication process of steel springs to improve their fatigue performance. International Journal of Fatigue, 2022, 159, 106785.	2.8	4
48	THE INFLUENCE OF LOADING RATE ON HYDROGEN INDUCED CRACKING OF MICRO ALLOYED STEELS. Fatigue and Fracture of Engineering Materials and Structures, 1997, 20, 717-727.	1.7	3
49	Hydrogen Induced Cracking Processes in Structural Microalloyed Steels Characterization and Modelling. Materials Science Forum, 1998, 284-286, 303-310.	0.3	3
50	Influence of the specimen configuration and the insert material on fracture toughness characterisation with reconstituted specimens. Nuclear Engineering and Design, 1999, 188, 231-240.	0.8	3
51	Predicting crack arrest behaviour of structural steels using small-scale material characterisation tests. European Structural Integrity Society, 2002, , 271-278.	0.1	3
52	Structural integrity assessment of different components of a power plant. Engineering Failure Analysis, 2007, 14, 301-309.	1.8	3
53	The knowledge and its application: Materials Engineering and Structural Integrity. Brief review of the Spanish case and contributions from Prof. Elices. Engineering Failure Analysis, 2009, 16, 2705-2720.	1.8	3
54	A Proposal for the Application of Failure Assessment Diagrams to Subcritical Hydrogen Induced Cracking Propagation Processes. Metals, 2019, 9, 670.	1.0	3

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55	Threshold stress estimation in hydrogen induced cracking by Small Punch tests based on the application of the incremental step loading technique. Theoretical and Applied Fracture Mechanics, 2020, 110, 102839.	2.1	3
56	Finite element simulation of fracture behaviour for aged duplex stainless steels. International Journal of Fracture, 2005, 134, 23-39.	1.1	2
57	Obtaining the J _{IC} curves of an X-750 alloy from rising load test results and iso-a curves obtained by means of finite elements model. Engineering Failure Analysis, 2009, 16, 409-420.	1.8	2
58	Characterisation of the fracture properties in the ductile to brittle transition region of the weld material of a reactor pressure vessel. Journal of Nuclear Materials, 2011, 411, 25-40.	1.3	2
59	Environmental Effect on Pipeline Steels: A Fitness for Service Perspective. , 2006, , 611-612.		2
60	A method for the assessment of hyperstatic cracked structures in the elastic-plastic regime. Engineering Fracture Mechanics, 1998, 61, 519-535.	2.0	1
61	An extension of the application of elastic-plastic assessment to cracked pipework systems. Nuclear Engineering and Design, 1998, 182, 141-147.	0.8	1
62	On the structural integrity assessment of elastic-plastic redundant cracked structures. Engineering Fracture Mechanics, 2006, 73, 2710-2722.	2.0	1
63	Structural integrity of an X-750 jet pump beam of a BWR by means of FITNET FFS procedure. Engineering Failure Analysis, 2009, 16, 2130-2139.	1.8	1
64	Analysis of fatigue behaviour of notched specimens made of fibreglass reinforced polyamide by means of a cohesive model. Polymer Testing, 2017, 64, 337-344.	2.3	1
65	Orientation of whole bone samples of small rodents matters during bending tests. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 65, 200-212.	1.5	1
66	Using Small Punch tests in environment under static load for fracture toughness estimation in hydrogen embrittlement. IOP Conference Series: Materials Science and Engineering, 2017, 272, 012033.	0.3	1
67	The role of the testing rate on Small Punch tests for the estimation of fracture toughness in hydrogen embrittlement. Procedia Structural Integrity, 2020, 28, 188-199.	0.3	1
68	Analysing the Notch Effect Within the Ductile-to-Brittle Transition Zone of S275JR Steel. , 2013, , .		1
69	Investigation through Artificial Neural Networks on the Influence of Shot Peening on the Hardness of ASTM TX304HB Stainless Steel. Journal of Testing and Evaluation, 2021, 49, 493-508.	0.4	1
70	Prediction of non-metallic inclusions in steel wires for tire reinforcement by means of machine learning algorithms. AIP Conference Proceedings, 2019, , .	0.3	0
71	Fitness for service assessment of tubular structures using the FITNET FFS Procedure. , 2010, , 457-464.		0
72	Predicting Crack Arrest Behaviour of Structural Steels Using New Procedures. , 2006, , 431-432.		0