

Josep Costa Balanzat

List of Publications by Year in descending order

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113
papers

5,457
citations

136740

32
h-index

82410

72
g-index

114
all docs

114
docs citations

114
times ranked

2919
citing authors

#	ARTICLE	IF	CITATIONS
1	An engineering solution for mesh size effects in the simulation of delamination using cohesive zone models. <i>Engineering Fracture Mechanics</i> , 2007, 74, 1665-1682.	2.0	1,212
2	A damage model for the simulation of delamination in advanced composites under variable-mode loading. <i>Mechanics of Materials</i> , 2006, 38, 1072-1089.	1.7	722
3	Accurate simulation of delamination growth under mixed-mode loading using cohesive elements: Definition of interlaminar strengths and elastic stiffness. <i>Composite Structures</i> , 2010, 92, 1857-1864.	3.1	367
4	Simulation of delamination in composites under high-cycle fatigue. <i>Composites Part A: Applied Science and Manufacturing</i> , 2007, 38, 2270-2282.	3.8	312
5	Determination of the critical size of a statistical representative volume element (SRVE) for carbon reinforced polymers†. <i>Acta Materialia</i> , 2006, 54, 3471-3484.	3.8	200
6	Random models versus periodic models for fibre reinforced composites. <i>Computational Materials Science</i> , 2006, 38, 316-324.	1.4	153
7	Mixed-mode delamination growth in carbon fibre composite laminates under cyclic loading. <i>International Journal of Solids and Structures</i> , 2004, 41, 4219-4235.	1.3	126
8	Delamination Under Fatigue Loads in Composite Laminates: A Review on the Observed Phenomenology and Computational Methods. <i>Applied Mechanics Reviews</i> , 2014, 66, .	4.5	121
9	A quasi-static indentation test to elucidate the sequence of damage events in low velocity impacts on composite laminates. <i>Composites Part A: Applied Science and Manufacturing</i> , 2016, 82, 180-189.	3.8	103
10	Characterization of crack propagation in mode I delamination of multidirectional CFRP laminates. <i>Composites Science and Technology</i> , 2012, 72, 1251-1256.	3.8	91
11	Damage resistance and damage tolerance of dispersed CFRP laminates: Effect of the mismatch angle between plies. <i>Composite Structures</i> , 2013, 101, 255-264.	3.1	90
12	Damage occurrence at edges of non-crimp-fabric thin-ply laminates under off-axis uniaxial loading. <i>Composites Science and Technology</i> , 2014, 98, 44-50.	3.8	67
13	An experimental study on matrix crack induced delamination in composite laminates. <i>Composite Structures</i> , 2015, 127, 10-17.	3.1	65
14	Damage resistance and damage tolerance of dispersed CFRP laminates: Effect of ply clustering. <i>Composite Structures</i> , 2013, 106, 96-103.	3.1	57
15	Variable-stiffness composite panels: As-manufactured modeling and its influence on the failure behavior. <i>Composites Part B: Engineering</i> , 2014, 56, 660-669.	5.9	54
16	On the validity of linear elastic fracture mechanics methods to measure the fracture toughness of adhesive joints. <i>International Journal of Solids and Structures</i> , 2016, 81, 110-116.	1.3	50
17	Measurement of the in situ transverse tensile strength of composite plies by means of the real time monitoring of microcracking. <i>Composites Part B: Engineering</i> , 2014, 65, 40-46.	5.9	49
18	Damage resistance and damage tolerance of dispersed CFRP laminates: Design and optimization. <i>Composite Structures</i> , 2013, 95, 569-576.	3.1	48

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19	Effect of ply thickness and ply level hybridization on the compression after impact strength of thin laminates. Composites Part A: Applied Science and Manufacturing, 2019, 121, 232-243.	3.8	48
20	Blackbody emission under laser excitation of silicon nanopowder produced by plasma-enhanced chemical-vapor deposition. Journal of Applied Physics, 1998, 83, 7879-7885.	1.1	45
21	Numerical investigation to prevent crack jumping in Double Cantilever Beam tests of multidirectional composite laminates. Composites Science and Technology, 2011, 71, 1587-1592.	3.8	45
22	An experimental analysis of the fracture behavior of composite bonded joints in terms of cohesive laws. Composites Part A: Applied Science and Manufacturing, 2016, 90, 234-242.	3.8	45
23	An experimental data reduction method for the Mixed Mode Bending test based on the J-integral approach. Composites Science and Technology, 2015, 117, 85-91.	3.8	44
24	Ant Colony Optimization for dispersed laminated composite panels under biaxial loading. Composite Structures, 2011, 94, 31-36.	3.1	43
25	An energy based failure criterion for matrix crack induced delamination in laminated composite structures. Composite Structures, 2014, 112, 339-344.	3.1	41
26	Improving damage resistance and load capacity of thin-ply laminates using ply clustering and small mismatch angles. Composites Part A: Applied Science and Manufacturing, 2019, 117, 76-91.	3.8	41
27	Role of structural saturation and geometry in the luminescence of silicon-based nanostructured materials. Physical Review B, 1996, 53, 7847-7850.	1.1	40
28	Variable-stiffness composite panels: Defect tolerance under in-plane tensile loading. Composites Part A: Applied Science and Manufacturing, 2014, 63, 21-31.	3.8	40
29	Impact and compression after impact response in thin laminates of spread-tow woven and non-crimp fabrics. Composite Structures, 2019, 215, 432-445.	3.1	40
30	A progressive damage model for unidirectional fibre-reinforced composites based on fibre fragmentation. Part I: Formulation. Composites Science and Technology, 2005, 65, 2039-2048.	3.8	39
31	A 3D Progressive Failure Model for predicting pseudo-ductility in hybrid unidirectional composite materials under fibre tensile loading. Composites Part A: Applied Science and Manufacturing, 2018, 107, 579-591.	3.8	38
32	Experimental study into compression after impact strength of laminates with conventional and nonconventional ply orientations. Composites Part B: Engineering, 2017, 126, 133-142.	5.9	34
33	Effects of plasma processing on the microstructural properties of silicon powders. Plasma Sources Science and Technology, 1994, 3, 348-354.	1.3	33
34	A data reduction method based on the J -integral to obtain the interlaminar fracture toughness in a mode II end-loaded split (ELS) test. Composites Part A: Applied Science and Manufacturing, 2016, 90, 670-677.	3.8	33
35	The effect interleaving has on thin-ply non-crimp fabric laminate impact response: X-ray tomography investigation. Composites Part A: Applied Science and Manufacturing, 2018, 107, 409-420.	3.8	31
36	Effect of the Nanoparticles on the Structure and Crystallization of Amorphous Silicon Thin Films Produced by rf Glow Discharge. Journal of Materials Research, 1998, 13, 2476-2479.	1.2	30

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37	A two-scale method for matrix cracking probability in fibre-reinforced composites based on a statistical representative volume element. <i>Composites Science and Technology</i> , 2006, 66, 1766-1777.	3.8	30
38	Radiative thermal emission from silicon nanoparticles: a reversed story from quantum to classical theory. <i>European Journal of Physics</i> , 2002, 23, 191-203.	0.3	29
39	Side Clamped Beam (SCB) hinge system for delamination tests in beam-type composite specimens. <i>Composites Science and Technology</i> , 2011, 71, 1023-1029.	3.8	29
40	Unusual photoluminescence properties in amorphous silicon nanopowder produced by plasma enhanced chemical vapor deposition. <i>Applied Physics Letters</i> , 1994, 64, 463-465.	1.5	27
41	Detailed experimental validation and benchmarking of six models for longitudinal tensile failure of unidirectional composites. <i>Composite Structures</i> , 2022, 279, 114828.	3.1	27
42	An efficient methodology for the experimental characterization of mode II delamination growth under fatigue loading. <i>International Journal of Fatigue</i> , 2017, 95, 185-193.	2.8	26
43	Mitigating the weak impact response of thin-ply based thin laminates through an unsymmetrical laminate design incorporating intermediate grade plies. <i>Composite Structures</i> , 2019, 220, 93-104.	3.1	25
44	A benchmark test for validating 3D simulation methods for delamination growth under quasi-static and fatigue loading. <i>Composite Structures</i> , 2019, 210, 932-941.	3.1	24
45	A quick procedure to predict free-edge delamination in thin-ply laminates under tension. <i>Engineering Fracture Mechanics</i> , 2016, 168, 28-39.	2.0	23
46	A 3D tomographic investigation to elucidate the low-velocity impact resistance, tolerance and damage sequence of thin non-crimp fabric laminates: effect of ply-thickness. <i>Composites Part A: Applied Science and Manufacturing</i> , 2018, 113, 53-65.	3.8	23
47	Influence of pre-bond moisture in the adherents on the fracture toughness of bonded joints for composite repairs. <i>International Journal of Adhesion and Adhesives</i> , 2014, 49, 80-89.	1.4	22
48	Interleaving light veils to minimise the trade-off between mode-I interlaminar fracture toughness and in-plane properties. <i>Composites Part A: Applied Science and Manufacturing</i> , 2020, 128, 105659.	3.8	22
49	Black-body emission from nanostructured materials. <i>Journal of Luminescence</i> , 1998, 80, 519-522.	1.5	21
50	An automated methodology for mode II delamination tests under fatigue loading based on the real time monitoring of the specimen's compliance. <i>International Journal of Fatigue</i> , 2016, 82, 634-642.	2.8	20
51	Unsymmetrical stacking sequences as a novel approach to tailor damage resistance under out-of-plane impact loading. <i>Composites Science and Technology</i> , 2019, 173, 125-135.	3.8	18
52	Production of nanometric particles in radio frequency glow discharges in mixtures of silane and methane. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , 1996, 14, 567-571.	0.9	17
53	Analysis of the mixed-mode end load split delamination test. <i>Composite Structures</i> , 2006, 76, 14-20.	3.1	17
54	Deposition of Nanostructured Silicon Thin Films by Means of the Selective Contribution of Particles in Pecvd. <i>Materials Research Society Symposia Proceedings</i> , 1998, 507, 499.	0.1	16

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55	Photoluminescence in silicon powder grown by plasma-enhanced chemical-vapor deposition: Evidence of a multistep-multiphoton excitation process. <i>Physical Review B</i> , 1994, 50, 18124-18133.	1.1	15
56	Preparation of nanoscale amorphous silicon based powder in a square-wave-modulated rf plasma reactor. <i>Vacuum</i> , 1994, 45, 1115-1117.	1.6	14
57	Nanometric powder of stoichiometric silicon carbide produced in square-wave modulated RF glow discharges. <i>Vacuum</i> , 1999, 52, 183-186.	1.6	14
58	Is sintering enhanced under non-isothermal conditions?. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 337, 248-253.	2.6	14
59	A progressive damage model for unidirectional fibre-reinforced composites based on fibre fragmentation. Part II: Stiffness reduction in environment sensitive fibres under fatigue. <i>Composites Science and Technology</i> , 2005, 65, 2269-2275.	3.8	14
60	Damage resistance and damage tolerance of dispersed CFRP laminates: The bending stiffness effect. <i>Composite Structures</i> , 2013, 106, 30-32.	3.1	14
61	Blind benchmarking of seven longitudinal tensile failure models for two virtual unidirectional composites. <i>Composites Science and Technology</i> , 2021, 202, 108555.	3.8	14
62	Accurate electrical measurements for in situ diagnosis of RF discharges in plasma CVD processes. <i>Vacuum</i> , 1999, 53, 1-5.	1.6	13
63	An exact solution for the determination of the mode mixture in the mixed-mode bending delamination test. <i>Composites Science and Technology</i> , 2006, 66, 1256-1258.	3.8	13
64	Nanostructured Silicon thin films Deposited by PECVD in the Presence of Silicon Nanoparticles. <i>Materials Research Society Symposia Proceedings</i> , 1997, 467, 313.	0.1	12
65	Nanoparticles of SiC _x N _y from low temperature RF plasmas: selective size, composition and structure. <i>Applied Surface Science</i> , 1999, 144-145, 702-707.	3.1	12
66	Assessment of the influence of the crack monitoring method in interlaminar fatigue tests using fiber Bragg grating sensors. <i>Composites Science and Technology</i> , 2013, 84, 44-50.	3.8	12
67	Error minimization method for spectroscopic and phase-modulated ellipsometric measurements on highly transparent thin films. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 1993, 10, 713.	0.8	11
68	Quality control of CFRP by means of digital image processing and statistical point pattern analysis. <i>Composites Science and Technology</i> , 2007, 67, 2438-2446.	3.8	11
69	Mechanical hinge system for delamination tests in beam-type composite specimens. <i>Composites Science and Technology</i> , 2008, 68, 1837-1842.	3.8	11
70	Numerical study to understand thermo-mechanical effects on a composite-aluminium hybrid bolted joint. <i>Composite Structures</i> , 2021, 275, 114396.	3.1	11
71	Study into the Mechanical Properties of a New Aeronautic-Grade Epoxy-Based Carbon-Fiber-Reinforced Vitrimer. <i>Polymers</i> , 2022, 14, 1223.	2.0	11
72	Structural Characterization and Crystallization Process of Nanostructured Silicon Thin Films Produced in Low-Pressure Silane Plasma. <i>Materials Research Society Symposia Proceedings</i> , 1998, 507, 933.	0.1	10

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73	Optical, vibrational and compositional study of amorphous silicon oxynitride thin films grown by an RF plasma using N ₂ O + SiH ₄ gas mixtures. Applied Surface Science, 1993, 70-71, 695-700.	3.1	9
74	Analytical model for predicting the tensile strength of unidirectional composites based on the density of fiber breaks. Composites Part B: Engineering, 2018, 141, 84-91.	5.9	9
75	Failure of hybrid composites under longitudinal tension: Influence of dynamic effects and thermal residual stresses. Composite Structures, 2020, 233, 111732.	3.1	9
76	Production of boron nitride nanometric powder by plasma-enhanced chemical vapor deposition: microstructural characterization. Diamond and Related Materials, 1996, 5, 544-547.	1.8	8
77	Effects of thermal and laser annealing on silicon carbide nanopowder produced in radio frequency glow discharge. Diamond and Related Materials, 1997, 6, 1559-1563.	1.8	8
78	Silicon carbide nanoparticles for advanced materials produced in radio frequency modulated glow discharges. Vacuum, 1997, 48, 665-668.	1.6	8
79	Suitable specimen dimensions for the determination of mode II fracture toughness of bonded joints by means of the ELS test. Engineering Fracture Mechanics, 2018, 202, 350-362.	2.0	8
80	Effects of local stress fields around broken fibres on the longitudinal failure of composite materials. International Journal of Solids and Structures, 2019, 156-157, 294-305.	1.3	8
81	A virtual testing based search for optimum compression after impact strength in thin laminates using ply-thickness hybridization and unsymmetrical designs. Composites Science and Technology, 2020, 196, 108188.	3.8	8
82	On how unsymmetrical laminate designs with tailored ply clusters affect compression after impact strength compared to symmetric baseline. Composite Structures, 2020, 238, 111958.	3.1	8
83	A new testing device to simultaneously measure the mode I fatigue delamination behavior of a batch of specimens. International Journal of Fatigue, 2018, 116, 275-283.	2.8	7
84	An analytical model to predict stress fields around broken fibres and their effect on the longitudinal failure of hybrid composites. Composite Structures, 2019, 211, 564-576.	3.1	7
85	Microstructural and Vibrational Characterization of the Hydrogenated Amorphous Silicon Powders. Materials Research Society Symposia Proceedings, 1993, 297, 1031.	0.1	6
86	Pressure influence on the decay of the photoluminescence in Si nanopowder grown by plasma-enhanced chemical vapor deposition. Applied Physics Letters, 1995, 67, 2830-2832.	1.5	6
87	High nucleation rate in pure SiC nanometric powder by a combination of room temperature plasmas and post-thermal treatments. Diamond and Related Materials, 1999, 8, 364-368.	1.8	6
88	Two-pheromone Ant Colony Optimization to design dispersed laminates for aeronautical structural applications. Advances in Engineering Software, 2013, 66, 10-18.	1.8	6
89	Mode I fatigue behaviour and fracture of adhesively-bonded fibre-reinforced polymer (FRP) composite joints for structural repairs. , 2015, , 121-147.		6
90	Measuring fracture energy of interfaces under mode I loading with the wedge driven test. Engineering Fracture Mechanics, 2020, 239, 107210.	2.0	6

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91	Production of Silicon Powder by Square-Wave Modulated Rf Silane Plasma. Materials Research Society Symposia Proceedings, 1992, 286, 155.	0.1	5
92	On the structural origin of the photoluminescence in silicon powder produced in PECVD processes. Thin Solid Films, 1996, 276, 96-99.	0.8	5
93	High-fidelity computational micromechanics of first-fibre failure in unidirectional composites: Deformation mechanisms and stress concentration factors. International Journal of Solids and Structures, 2020, 204-205, 18-33.	1.3	5
94	Experimental demonstration of the in-situ effect under transverse shear. Composites Part A: Applied Science and Manufacturing, 2020, 138, 106047.	3.8	5
95	A synchrotron computed tomography dataset for validation of longitudinal tensile failure models based on fibre break and cluster development. Data in Brief, 2021, 39, 107590.	0.5	5
96	Pressure dependence of photoluminescence in amorphous silicon nanopowder produced by plasma enhanced chemical vapour deposition. Materials Science and Technology, 1995, 11, 707-710.	0.8	4
97	In situ fast ellipsometric analysis of repetitive surface phenomena. Review of Scientific Instruments, 1997, 68, 3135-3139.	0.6	4
98	Delamination propagation under cyclic loading. , 2008, , 485-513.		4
99	Size effects in hybrid unidirectional polymer composites under longitudinal tension: A micromechanical investigation. Composites Part A: Applied Science and Manufacturing, 2021, 140, 106186.	3.8	4
100	Should the translaminar fracture toughness of laminated composites be represented by the R or the curve? A comparison of their consistency and predictive capability. Composites Part A: Applied Science and Manufacturing, 2022, 156, 106867.	3.8	4
101	In situ real-time ellipsometric study of the growth of r.f. plasma deposited amorphous hydrogenated silicon oxynitride thin films. Thin Solid Films, 1993, 228, 137-140.	0.8	3
102	Produiion of a-Si _{1-x} C _x H powders using radiofrequency glow discharges of silane and methane mixtures.. Materials Research Society Symposia Proceedings, 1995, 410, 173.	0.1	3
103	Gas collisions and pressure quenching of the photoluminescence of silicon nanopowder grown by plasma-enhanced chemical vapor deposition. Journal of Applied Physics, 1997, 81, 3290-3293.	1.1	3
104	Thermal Desorption of Hydrogen in Si and SiC Nanoparticles Produced by Plasma-Enhanced Chemical-Vapor Deposition. Materials Research Society Symposia Proceedings, 1998, 513, 427.	0.1	3
105	Fabrication of hybrid thin ply tapes. IOP Conference Series: Materials Science and Engineering, 2018, 406, 012067.	0.3	3
106	A computationally efficient methodology to simulate hybrid bolted joints including thermal effects. Mechanics of Advanced Materials and Structures, 2023, 30, 48-66.	1.5	3
107	Testing and simulation of a composite-aluminium wingbox subcomponent subjected to thermal loading. Composite Structures, 2022, 296, 115887.	3.1	2
108	Study of thin films of transparent electronic materials by phase-modulated spectroellipsometry. Thin Solid Films, 1993, 233, 223-226.	0.8	1

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109	IR-Visible Photoluminescence Study of Nanometer-Size Amorphous Silicon Powder Produced by Square-Wave-Modulated RF Glow Discharge. Materials Research Society Symposia Proceedings, 1994, 351, 405.	0.1	1
110	Real Time Ellipsometric Study of Boron Nitride Thin Film Growth. Materials Research Society Symposia Proceedings, 1995, 410, 307.	0.1	1
111	Calorimetric Study of the Thermal Induced Transformations of Ultrafine Silicon Carbide Powder Produced by RF Glow Discharge. Key Engineering Materials, 1997, 132-136, 145-148.	0.4	1
112	Computed Tomography of Polymer Composites Reinforced with Natural Short Fiber. Lecture Notes in Computer Science, 2019, , 452-467.	1.0	1
113	Thermal Oxidation of Si Nanoparticles Grown by Plasma-Enhanced CVD. Materials Research Society Symposia Proceedings, 2000, 609, 5111.	0.1	0