Silvestre Pinho

List of Publications by Year in descending order

116 papers	7,480 citations	50276 46 h-index	54911 84 g-index
120 all docs	120 docs citations	120 times ranked	3727 citing authors

#	Article	IF	Citations
1	Recycling carbon fibre reinforced polymers for structural applications: Technology review and market outlook. Waste Management, 2011, 31, 378-392.	7.4	677
2	Fracture toughness of the tensile and compressive fibre failure modes in laminated composites. Composites Science and Technology, 2006, 66, 2069-2079.	7.8	444
3	On acoustic emission for failure investigation in CFRP: Pattern recognition and peak frequency analyses. Mechanical Systems and Signal Processing, 2011, 25, 1393-1407.	8.0	440
4	Prediction of in situ strengths and matrix cracking in composites under transverse tension and in-plane shear. Composites Part A: Applied Science and Manufacturing, 2006, 37, 165-176.	7.6	348
5	Physically-based failure models and criteria for laminated fibre-reinforced composites with emphasis on fibre kinking: Part I: Development. Composites Part A: Applied Science and Manufacturing, 2006, 37, 63-73.	7.6	347
6	Physically based failure models and criteria for laminated fibre-reinforced composites with emphasis on fibre kinking. Part II: FE implementation. Composites Part A: Applied Science and Manufacturing, 2006, 37, 766-777.	7.6	291
7	Generation of random distribution of fibres in long-fibre reinforced composites. Composites Science and Technology, 2008, 68, 2092-2102.	7.8	269
8	Micromechanical analysis of polymer composites reinforced by unidirectional fibres: Part I â€“ Constitutive modelling. International Journal of Solids and Structures, 2013, 50, 1897-1905.	2.7	221
9	Micromechanical analysis of polymer composites reinforced by unidirectional fibres: Part II â€“ Micromechanical analyses. International Journal of Solids and Structures, 2013, 50, 1906-1915.	2.7	200
10	Material and structural response of polymer-matrix fibre-reinforced composites. Journal of Composite Materials, 2012, 46, 2313-2341.	2.4	180
11	Translaminar fracture toughness testing of composites: A review. Polymer Testing, 2012, 31, 481-489.	4.8	154
12	A micromechanical model for kink-band formation: Part I â€" Experimental study and numerical modelling. Composites Science and Technology, 2009, 69, 948-955.	7.8	138
13	A floating node method for the modelling of discontinuities in composites. Engineering Fracture Mechanics, 2014, 127, 104-134.	4.3	136
14	Formulation and implementation of decohesion elements in an explicit finite element code. Composites Part A: Applied Science and Manufacturing, 2006, 37, 778-789.	7.6	125
15	On the transition from shear-driven fibre compressive failure to fibre kinking in notched CFRP laminates under longitudinal compression. Composites Science and Technology, 2010, 70, 1223-1231.	7.8	123
16	Numerical analysis of size effects on open-hole tensile composite laminates. Composites Part A: Applied Science and Manufacturing, 2013, 47, 52-62.	7.6	122
17	Measurement of the in situ ply fracture toughness associated with mode I fibre tensile failure in FRP. Part I: Data reduction. Composites Science and Technology, 2010, 70, 606-613.	7.8	107
18	The effect of recycling on the mechanical response of carbon fibres and their composites. Composite Structures, 2012, 94, 3669-3684.	5.8	95

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19	Measurement of the in situ ply fracture toughness associated with mode I fibre tensile failure in FRP. Part II: Size and lay-up effects. Composites Science and Technology, 2010, 70, 614-621.	7.8	88
20	A micromechanical model for kink-band formation: Part IIâ€"Analytical modelling. Composites Science and Technology, 2009, 69, 956-964.	7.8	84
21	Modelling the tensile failure of composites with the floating node method. Computer Methods in Applied Mechanics and Engineering, 2016, 308, 414-442.	6.6	84
22	Micro-mechanical modelling of shear-driven fibre compressive failure and of fibre kinking for failure envelope generation in CFRP laminates. Composites Science and Technology, 2010, 70, 1214-1222.	7.8	78
23	Influence of geometrical parameters on the elastic response of unidirectional composite materials. Composite Structures, 2012, 94, 3223-3231.	5.8	75
24	Modelling the R-curve effect and its specimen-dependence. International Journal of Solids and Structures, 2011, 48, 1767-1777.	2.7	70
25	Hierarchical scaling law for the strength of composite fibre bundles. Journal of the Mechanics and Physics of Solids, 2013, 61, 1337-1356.	4.8	70
26	Modeling delamination migration in cross-ply tape laminates. Composites Part A: Applied Science and Manufacturing, 2015, 71, 192-203.	7.6	69
27	Constitutive modelling of fibre-reinforced composites with unidirectional plies using a plasticity-based approach. Composites Science and Technology, 2011, 71, 1068-1074.	7.8	68
28	An experimental study of failure initiation and propagation in 2D woven composites under compression. Composites Science and Technology, 2011, 71, 1316-1325.	7.8	67
29	Realising bio-inspired impact damage-tolerant thin-ply CFRP Bouligand structures via promoting diffused sub-critical helicoidal damage. Composites Science and Technology, 2019, 182, 107684.	7.8	67
30	Application of machine learning to predict the multiaxial strain-sensing response of CNT-polymer composites. Carbon, 2019, 146, 265-275.	10.3	66
31	Fracture analysis of composite coâ€cured structural joints using decohesion elements. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 745-757.	3.4	64
32	Numerical simulation of the non-linear deformation of 5-harness satin weaves. Computational Materials Science, 2012, 61, 116-126.	3.0	62
33	Engineering the translaminar fracture behaviour of thin-ply composites. Composites Science and Technology, 2016, 131, 110-122.	7.8	60
34	Damage and failure of triaxial braided composites under multi-axial stress states. Composites Science and Technology, 2017, 150, 32-44.	7.8	60
35	Numerical simulation of the crushing process of composite materials. International Journal of Crashworthiness, 2004, 9, 263-276.	1.9	58
36	A detailed finite element investigation of composite bolted joints with countersunk fasteners. Composites Part A: Applied Science and Manufacturing, 2013, 52, 143-150.	7.6	58

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37	Thickness-dependence of the translaminar fracture toughness: Experimental study using thin-ply composites. Composites Part A: Applied Science and Manufacturing, 2016, 90, 33-44.	7.6	57
38	Predictions of the electro-mechanical response of conductive CNT-polymer composites. Journal of the Mechanics and Physics of Solids, 2018, 114, 84-96.	4.8	54
39	Developing a four point bend specimen to measure the mode I intralaminar fracture toughness of unidirectional laminated composites. Composites Science and Technology, 2009, 69, 1303-1309.	7.8	53
40	Translaminar fracture toughness: The critical notch tip radius of 0Â° plies in CFRP. Composites Science and Technology, 2011, 72, 97-102.	7.8	53
41	Measurement of the fracture toughness associated with the longitudinal fibre compressive failure mode of laminated composites. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1930-1938.	7.6	51
42	Mesh generation and geometrical modelling of 3D woven composites with variable tow cross-sections. Computational Materials Science, 2012, 51, 103-111.	3.0	50
43	Material and structural response of polymer-matrix fibre-reinforced composites: Part B. Journal of Composite Materials, 2013, 47, 679-696.	2.4	50
44	Ultra-thin-ply CFRP Bouligand bio-inspired structures with enhanced load-bearing capacity, delayed catastrophic failure and high energy dissipation capability. Composites Part A: Applied Science and Manufacturing, 2020, 129, 105655.	7.6	50
45	Effect of variation in fibre volume fraction on modes I and II delamination behaviour of 5HS woven composites manufactured by RTM. Composites Science and Technology, 2009, 69, 2368-2375.	7.8	49
46	Mechanical analysis and toughening mechanisms of a multiphase recycled CFRP. Composites Science and Technology, 2010, 70, 1713-1725.	7.8	48
47	Delamination growth directionality and the subsequent migration processes â€“ The key to damage tolerant design. Composites Part A: Applied Science and Manufacturing, 2013, 54, 79-87.	7.6	47
48	Modelling delamination migration in angle-ply laminates. Composites Science and Technology, 2017, 142, 145-155.	7.8	46
49	An analytical model for the translaminar fracture toughness of fibre composites with stochastic quasi-fractal fracture surfaces. Journal of the Mechanics and Physics of Solids, 2014, 66, 78-102.	4.8	45
50	Learning from nature: Bio-inspiration for damage-tolerant high-performance fibre-reinforced composites. Composites Science and Technology, 2021, 208, 108669.	7.8	45
51	Reducing the domain in the mechanical analysis of periodic structures, with application to woven composites. Composites Science and Technology, 2011, 71, 969-979.	7.8	44
52	Numerical modelling of woven composites: Biaxial loading. Composites Part A: Applied Science and Manufacturing, 2012, 43, 1326-1337.	7.6	44
53	The importance of translaminar fracture toughness for the penetration impact behaviour of woven carbon/glass hybrid composites. Composites Part A: Applied Science and Manufacturing, 2017, 103, 1-8.	7.6	43
54	Exploiting nacre-inspired crack deflection mechanisms in CFRP via micro-structural design. Composites Science and Technology, 2017, 153, 178-189.	7.8	42

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55	Predictions of the electrical conductivity of composites of polymers and carbon nanotubes by an artificial neural network. Scripta Materialia, 2019, 166, 117-121.	5.2	37
56	Herringbone-Bouligand CFRP structures: A new tailorable damage-tolerant solution for damage containment and reduced delaminations. Composites Science and Technology, 2020, 190, 108047.	7.8	34
57	A finite fracture mechanics formulation to predict fibre kinking and splitting in CFRP under combined longitudinal compression and in-plane shear. Mechanics of Materials, 2011, 43, 730-739.	3.2	32
58	A meso-scale simulation framework for predicting the mechanical response of triaxial braided composites. Composites Part A: Applied Science and Manufacturing, 2018, 107, 489-506.	7.6	32
59	Intralaminar fracture toughness characterisation of woven composite laminates. Part I: Design and analysis of a compact tension (CT) specimen. Engineering Fracture Mechanics, 2014, 131, 349-360.	4.3	30
60	Combining damage and friction to model compressive damage growth in fibre-reinforced composites. Journal of Composite Materials, 2015, 49, 2483-2495.	2.4	30
61	On longitudinal compressive failure of carbon-fibre-reinforced polymer: from unidirectional to woven, and from virgin to recycled. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2012, 370, 1871-1895.	3.4	29
62	Stress redistribution around clusters of broken fibres in a composite. Composite Structures, 2017, 168, 226-233.	5.8	29
63	Interface micro-texturing for interlaminar toughness tailoring: a film-casting technique. Composites Science and Technology, 2018, 156, 203-214.	7.8	29
64	Intralaminar fracture toughness characterisation of woven composite laminates. Part II: Experimental characterisation. Engineering Fracture Mechanics, 2014, 131, 361-370.	4.3	28
65	Stochastic failure modelling of unidirectional composite ply failure. Reliability Engineering and System Safety, 2012, 108, 1-9.	8.9	27
66	On the effect of electric field application during the curing process on the electrical conductivity of single-walled carbon nanotubesâ€“epoxy composites. Carbon, 2019, 150, 153-167.	10.3	26
67	Response and damage propagation of polymer-matrix fibre-reinforced composites: Predictions for WWFE-III Part A. Journal of Composite Materials, 2013, 47, 2595-2612.	2.4	25
68	Realising damage-tolerant nacre-inspired CFRP. Journal of the Mechanics and Physics of Solids, 2018, 116, 391-402.	4.8	25
69	The relationship between mixed-mode II/III delamination and delamination migration in composite laminates. Composites Science and Technology, 2014, 105, 102-109.	7.8	24
70	The influence of temperature and moisture on the mode I fracture toughness and associated fracture morphology of a highly toughened aerospace CFRP. Composites Part A: Applied Science and Manufacturing, 2021, 142, 106241.	7.6	24
71	Multiple length/time-scale simulation of localized damage in composite structures using a Mesh Superposition Technique. Composite Structures, 2015, 121, 395-405.	5.8	23
72	Predicting the non-linear mechanical response of triaxial braided composites. Composites Part A: Applied Science and Manufacturing, 2018, 114, 117-135.	7.6	23

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73	Failure mechanisms of biological crossed-lamellar microstructures applied to synthetic high-performance fibre-reinforced composites. Journal of the Mechanics and Physics of Solids, 2019, 125, 53-73.	4.8	22
74	3D printed continuous fibre-reinforced composites: Bio-inspired microstructures for improving the translaminar fracture toughness. Composites Science and Technology, 2019, 182, 107731.	7.8	21
75	The influence of micromechanical properties and reinforcement architecture on the mechanical response of recycled composites. Composites Part A: Applied Science and Manufacturing, 2014, 56, 213-225.	7.6	20
76	Exploring the potential of interleaving to delay catastrophic failure in unidirectional composites under tensile loading. Composites Science and Technology, 2015, 106, 100-109.	7.8	20
77	On the electrical conductivity of composites with a polymeric matrix and a non-uniform concentration of carbon nanotubes. Composites Science and Technology, 2020, 188, 108003.	7.8	20
78	Residual stress field and reduction of stress intensity factors in cold-worked holes. Theoretical and Applied Fracture Mechanics, 2005, 44, 168-177.	4.7	19
79	Computational implementation of a novel constitutive model for multidirectional composites. Computational Materials Science, 2012, 51, 217-224.	3.0	18
80	Interaction between nacre-like CFRP mesolayers and long-fibre interlayers. Composite Structures, 2018, 200, 921-928.	5.8	17
81	Towards quasi isotropic laminates with engineered fracture behaviour for industrial applications. Composites Science and Technology, 2018, 165, 290-306.	7.8	17
82	Bio-inspired design for enhanced damage tolerance of self-reinforced polypropylene/carbon fibre polypropylene hybrid composites. Composites Part A: Applied Science and Manufacturing, 2019, 121, 341-352.	7.6	17
83	Interlocking thin-ply reinforcement concept for improved fracture toughness and damage tolerance. Composites Science and Technology, 2019, 181, 107681.	7.8	15
84	Design of composite stiffener run-outs for damage tolerance. Finite Elements in Analysis and Design, 2011, 47, 949-954.	3.2	14
85	Homogenisation of slender periodic composite structures. International Journal of Solids and Structures, 2013, 50, 1473-1481.	2.7	14
86	The residual stress intensity factors for coldâ€worked cracked holes: a technical note. Fatigue and Fracture of Engineering Materials and Structures, 2004, 27, 879-886.	3.4	13
87	Analytical modelling of the compressive and tensile response of woven composites. Composite Structures, 2012, 94, 2724-2735.	5.8	13
88	Hygrothermal effects on the translaminar fracture toughness of a highly toughened aerospace CFRP: Experimental characterisation and model prediction. Composites Part A: Applied Science and Manufacturing, 2021, 150, 106582.	7.6	12
89	Translaminar fracture toughness of NCF composites with multiaxial blankets. Materials and Design, 2016, 94, 410-416.	7.0	11
90	Engineering tensile behavior of hybrid carbon fiber/self-reinforced polypropylene composites by bio-inspired fiber discontinuities. Composites Part B: Engineering, 2019, 178, 107502.	12.0	11

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91	Bio-inspired armour: CFRP with scales for perforation resistance. Materials Letters, 2020, 273, 127966.	2.6	11
92	Mixed-mode translaminar fracture of CFRP: Failure analysis and fractography. Composite Structures, 2013, 95, 135-141.	5.8	10
93	A novel aluminium/CFRP hybrid composite with a bio-inspired crossed-lamellar microstructure for preservation of structural integrity. Composites Science and Technology, 2019, 182, 107760.	7.8	10
94	Investigating the use of compliant webs in the damage-tolerant design of stiffener run-outs. Composites Part B: Engineering, 2013, 45, 70-77.	12.0	9
95	Recycling of Carbon Fibers. , 2014, , 269-283.		9
96	A polymorphic element formulation towards multiscale modelling of composite structures. Computer Methods in Applied Mechanics and Engineering, 2019, 346, 359-387.	6.6	9
97	Exploiting symmetries in solid-to-shell homogenization, with application to periodic pin-reinforced sandwich structures. Composite Structures, 2015, 132, 995-1005.	5.8	7
98	Virtual Testing of Large Composite Structures: A Multiple Length/Time-Scale Framework. Journal of Multiscale Modeling, 2015, 06, 1550008.	1.1	7
99	A Numerical Material Model for Predicting the High Velocity Impact Behaviour of Polymer Composites. Computational Methods in Applied Sciences (Springer), 2008, , 161-177.	0.3	6
100	A coupled mechanicalâ€charge/dipole molecular dynamics finite element method, with multiâ€scale applications to the design of graphene nanoâ€devices. International Journal for Numerical Methods in Engineering, 2014, 100, 243-276.	2.8	6
101	A three-level hybrid metal/in-plane-CFRP/crossed-lamellar microstructure concept for containment applications. Composites Part A: Applied Science and Manufacturing, 2019, 126, 105609.	7.6	6
102	Prediction of the post-crushing compressive response of progressively crushable sandwich foam cores. Composites Part A: Applied Science and Manufacturing, 2016, 80, 148-158.	7.6	5
103	Staggered ply discontinuities for tailoring the tensile behavior of hybrid carbon fiber/self-reinforced polypropylene composites: A study of pattern parameters. Composites Part A: Applied Science and Manufacturing, 2019, 125, 105551.	7.6	4
104	Hot spot analysis in complex composite material structures. Composite Structures, 2019, 207, 776-786.	5.8	4
105	Fractographic study to characterise the interaction between intralaminar and interlaminar fracture from embedded defects under compression loading. Composites Part A: Applied Science and Manufacturing, 2019, 125, 105557.	7.6	3
106	A floating connector element formulation for multi-level modelling of composite structures. Composite Structures, 2020, 251, 112532.	5.8	3
107	Fibre-dominated compressive failure in polymer matrix composites. , 2012, , 183-223.		2
108	A novel formulation for the explicit discretisation of evolving boundaries with application to topology optimisation. Computer Methods in Applied Mechanics and Engineering, 2020, 367, 113077.	6.6	2

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109	The effect of tab orientation on the toughening mechanisms produced by interlocked interlaminar thin-ply CFRP reinforcements. Composite Structures, 2020, 238, 111932.	5.8	2
110	Damage-Tolerant Design of Stiffener Run-Outs: A Finite Element Approach. , 2012, , .		1
111	MECHANICAL RESPONSE AND FAILURE OF 2D WOVEN COMPOSITES UNDER COMPRESSION. Computational and Experimental Methods in Structures, 2015, , 75-107.	0.3	1
112	Permeability Tests of Carbon Fibre Preforms. Key Engineering Materials, 2002, 230-232, 331-334.	0.4	0
113	Manufacture of a Fin-Box Made by RTM. Materials Science Forum, 2004, 455-456, 890-0.	0.3	0
114	Homogenization of slender periodic composite structures. , 2012, , .		0
115	A New Multi-Physics Molecular Dynamics Finite Element Method for designing graphene based nano-structures. , 2013, , .		0
116	TiGr Nacre: Damage Tolerance through Damage Diffusion. , 0, , .		0