

Sergio Pellegrino

List of Publications by Year in descending order

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139
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2142
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#	ARTICLE	IF	CITATIONS
1	Development of the Deployable on-Orbit ultraLight Composite Experiment (DOLCE) for the Space Solar Power Project Demonstration Mission. , 2022, , .		6
2	Lightweight Composite Reflectarray that can be Flattened, Folded, and Coiled for Compact Stowage. , 2022, , .		4
3	Micromechanics Modeling of Time-dependent Failure of Stowed High-strain Composite Structures. , 2022, , .		0
4	Inextensible Surface Reconstruction Under Small Relative Deformations from Distributed Angle Measurements. International Journal of Computer Vision, 2022, 130, 594.	15.6	0
5	Probing the Stability of Ladder-Type Coilable Space Structures. AIAA Journal, 2022, 60, 2000-2012.	2.6	8
6	Deployment Dynamics of Thin-Shell Space Structures. Journal of Spacecraft and Rockets, 2022, 59, 1214-1227.	1.9	7
7	Probing the stability of thin-shell space structures under bending. International Journal of Solids and Structures, 2022, 257, 111806.	2.7	3
8	Origami-Inspired Shape-Changing Phased Array. , 2021, , .		9
9	Size effects in plain-weave Astroquartz® deployable thin shells. Journal of Composite Materials, 2021, 55, 2417-2430.	2.4	3
10	Deployment Dynamics of Foldable Thin Shell Space Structures. , 2021, , .		4
11	Shape reconstruction of planar flexible spacecraft structures using distributed sun sensors. Acta Astronautica, 2021, 180, 328-339.	3.2	5
12	Topology and Shape Optimization of Ultrathin Composite Self-Deployable Shell Structures with Cutouts. AIAA Journal, 2021, 59, 3696-3709.	2.6	6
13	Time-efficient geometrically non-linear finite element simulations of thin shell deployable structures. , 2021, , .		1
14	Tension-Stabilized Coiling of Isotropic Tape Springs. International Journal of Solids and Structures, 2020, 188-189, 103-117.	2.7	8
15	A Theory for the Design of Multi-Stable Morphing Structures. Journal of the Mechanics and Physics of Solids, 2020, 136, 103772.	4.8	35
16	Experimental Study of Time-dependent Failure of High Strain Composites. , 2020, , .		2
17	Ultralight Deployable Space Structure Prototype. , 2020, , .		15
18	Nonlinear elastic buckling of ultra-thin coilable booms. International Journal of Solids and Structures, 2020, 203, 46-56.	2.7	28

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19	Parametric Design of Conforming Joints for Thin-Shell Coilable Structures. , 2019, , .		1
20	A flexible phased array system with low areal mass density. Nature Electronics, 2019, 2, 195-205.	26.0	56
21	Shear-induced buckling of a thin elastic disk undergoing spin-up. International Journal of Solids and Structures, 2019, 166, 75-82.	2.7	4
22	Topology Optimization of Composite Self-Deployable Thin Shells with Cutouts. , 2019, , .		4
23	Reducing Stress Concentration in the Transition Region of Coilable Ultra-Thin-Shell Booms. , 2019, , .		8
24	Ultralight Spacecraft Structure Prototype. , 2019, , .		9
25	Large-Area Deployable Reflectarray Antenna for CubeSats. , 2019, , .		16
26	Closed cross-section dual-matrix composite hinge for deployable structures. Composite Structures, 2019, 208, 784-795.	5.8	30
27	Wrinkling of transversely loaded spinning membranes. International Journal of Solids and Structures, 2018, 139-140, 163-173.	2.7	14
28	Cure-induced deformation of ultra-thin composite laminates. , 2018, , .		8
29	Self-Deployable Joints for Ultra-Light Space Structures. , 2018, , .		10
30	Stress Concentration and Material Failure During Coiling of Ultra-Thin TRAC Booms. , 2018, , .		10
31	Nonlinear thermomechanical response and constitutive modeling of viscoelastic polyethylene membranes. Mechanics of Materials, 2018, 117, 9-21.	3.2	12
32	Shape Measurement of Large Structures in Space: Experiments. , 2018, , .		1
33	Nonlinear vibration of transversely-loaded spinning membranes. Journal of Sound and Vibration, 2018, 427, 41-62.	3.9	7
34	Searching for imperfection insensitive externally pressurized near-spherical thin shells. Journal of the Mechanics and Physics of Solids, 2018, 120, 49-67.	4.8	9
35	Micromechanics Models for Viscoelastic Plain-Weave Composite Tape Springs. AIAA Journal, 2017, 55, 309-321.	2.6	48
36	Post-cure shape errors of ultra-thin symmetric CFRP laminates: Effect of ply-level imperfections. Composite Structures, 2017, 164, 237-247.	5.8	10

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37	Characterization of Ultra-Thin Composite Triangular Rollable and Collapsible Booms. , 2017, , .		27
38	In-space Shape Measurement of Large Planar Structures. , 2017, , .		4
39	Experiments on imperfection insensitive axially loaded cylindrical shells. International Journal of Solids and Structures, 2017, 115-116, 73-86.	2.7	25
40	Crease-free biaxial packaging of thick membranes with slipping folds. International Journal of Solids and Structures, 2017, 108, 24-39.	2.7	19
41	Multilayer active shell mirrors for space telescopes. , 2016, , .		3
42	Thermoviscoelastic models for polyethylene thin films. Mechanics of Time-Dependent Materials, 2016, 20, 13-43.	4.4	17
43	Co-phasing primary mirror segments of an optical space telescope using a long stroke Zernike WFS. Proceedings of SPIE, 2016, , .	0.8	3
44	Bloch wave buckling analysis of axially loaded periodic cylindrical shells. Computers and Structures, 2016, 177, 114-125.	4.4	11
45	Nonlinear dynamic analysis of creased shells. Finite Elements in Analysis and Design, 2016, 121, 64-74.	3.2	18
46	Architecture for in-space robotic assembly of a modular space telescope. Journal of Astronomical Telescopes, Instruments, and Systems, 2016, 2, 041207.	1.8	59
47	UHF Deployable Helical Antennas for CubeSats. IEEE Transactions on Antennas and Propagation, 2016, 64, 3752-3759.	5.1	66
48	Effects of Long-Term Stowage on the Deployment of Bistable Tape Springs. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	2.2	55
49	Folding and Deployment of Closed Cross-Section Dual-Matrix Composite Booms. , 2016, , .		7
50	Ultralight Structures for Space Solar Power Satellites. , 2016, , .		50
51	Wrapping Thick Membranes with Slipping Folds. , 2015, , .		9
52	Design algorithm for the placement of identical segments in a large spherical mirror. Journal of Astronomical Telescopes, Instruments, and Systems, 2015, 1, 014007.	1.8	0
53	Large-Strain Viscoelastic Constitutive Models for Thin Polyethylene Films. , 2015, , .		0
54	Using CubeSat/micro-satellite technology to demonstrate the Autonomous Assembly of a Reconfigurable Space Telescope (AAReST). Acta Astronautica, 2015, 114, 112-122.	3.2	119

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55	Imperfection-insensitive axially loaded thin cylindrical shells. International Journal of Solids and Structures, 2015, 62, 39-51.	2.7	48
56	Viscoplastic tearing of polyethylene thin film. Mechanics of Time-Dependent Materials, 2015, 19, 187-208.	4.4	6
57	Design algorithm for the placement of identical segments in a large spherical mirror. Journal of Astronomical Telescopes, Instruments, and Systems, 2015, 1, 024002.	1.8	3
58	Optimized actuators for ultrathin deformable primary mirrors. Applied Optics, 2015, 54, 4937.	2.1	7
59	Dual-Matrix Composite Wideband Antenna Structures for CubeSats. , 2015, , .		3
60	Folding and Deployment of Thin Shell Structures. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2015, , 179-267.	0.6	6
61	Design of Ultrathin Composite Self-Deployable Booms. Journal of Spacecraft and Rockets, 2014, 51, 1811-1821.	1.9	47
62	Deployment Dynamics of Ultrathin Composite Booms with Tape-Spring Hinges. Journal of Spacecraft and Rockets, 2014, 51, 604-613.	1.9	57
63	Optimization of electrode configuration in surface-parallel actuated deformable mirrors. Proceedings of SPIE, 2014, , .	0.8	2
64	Packaging and deployment strategies for synthetic aperture radar membrane antenna arrays. , 2014, , .		1
65	Manufacture of Arbitrary Cross-Section Composite Honeycomb Cores Based on Origami Techniques. Journal of Mechanical Design, Transactions of the ASME, 2014, 136, .	2.9	59
66	Design, fabrication and testing of active carbon shell mirrors for space telescope applications. , 2014, , .		9
67	Trajectory Planning for CubeSat Short-Time-Scale Proximity Operations. Journal of Guidance, Control, and Dynamics, 2014, 37, 566-579.	2.8	33
68	Deployment mechanics of highly compacted thin membrane structures. , 2014, , .		8
69	Self-Supporting Membrane Structures with Curved Creases for Smooth Packaging and Deployment. , 2014, , .		6
70	Parylene origami structure for introcular implantation. , 2013, , .		13
71	Folding, Stowage, and Deployment of Viscoelastic Tape Springs. AIAA Journal, 2013, 51, 1908-1918.	2.6	51
72	Deployable helical antennas for cubesats. , 2013, , .		11

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73	Ultralightweight deformable mirrors. Applied Optics, 2013, 52, 5327.	1.8	35
74	Failure of Carbon Fibers at a Crease in a Fiber-Reinforced Silicone Sheet. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	2.2	8
75	Failure criterion for two-ply plain-weave CFRP laminates. Journal of Composite Materials, 2013, 47, 1357-1375.	2.4	28
76	Design and testing of imperfection-insensitive monocoque cylindrical shells. , 2013, , .		4
77	Ultra-Thin Highly Deformable Composite Mirrors. , 2013, , .		7
78	Origami Sunshield Concepts for Space Telescopes. , 2013, , .		38
79	Manufacture of Arbitrary Cross-Section Composite Honeycomb Cores Based on Origami Techniques. , 2013, , .		5
80	Micromechanical modeling of deployment and shape recovery of thin-walled viscoelastic composite space structures. , 2012, , .		10
81	Characterization of a high strain composite material. , 2012, , .		6
82	Thin deformable mirrors for a reconfigurable space telescope. , 2012, , .		5
83	Structural Architectures for a Deployable Wideband UHF Antenna. , 2012, , .		11
84	Wrinkling of Orthotropic Viscoelastic Membranes. AIAA Journal, 2012, 50, 668-681.	2.6	22
85	Space-quality data from balloon-borne telescopes: The High Altitude Lensing Observatory (HALO). Astroparticle Physics, 2012, 38, 31-40.	4.3	13
86	Thin-Shell Deployable Reflectors with Collapsible Stiffeners: Experiments and Simulations. AIAA Journal, 2012, 50, 659-667.	2.6	13
87	Folding of fiber composites with a hyperelastic matrix. International Journal of Solids and Structures, 2012, 49, 395-407.	2.7	47
88	Constitutive modeling of fiber composites with a soft hyperelastic matrix. International Journal of Solids and Structures, 2012, 49, 635-647.	2.7	44
89	Quasi-Static Folding and Deployment of Ultrathin Composite Tape-Spring Hinges. Journal of Spacecraft and Rockets, 2011, 48, 187-198.	1.9	104
90	Design and Validation of Thin-Walled Composite Deployable Booms with tape-Spring Hinges. , 2011, , .		18

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91	Viscoelastic effects in tape-springs. , 2011, , .		15
92	Effects of Component Properties on the Accuracy of a Joint-Dominated Deployable Mast. , 2011, , .		6
93	A Technique to Predict Clefing of Lobed Super-Pressure Balloons. , 2011, , .		3
94	Concept and Design of a Multistable Plate Structure. Journal of Mechanical Design, Transactions of the ASME, 2011, 133, .	2.9	21
95	A zero-stiffness elastic shell structure. Journal of Mechanics of Materials and Structures, 2011, 6, 203-212.	0.6	46
96	Shape Correction of Thin Mirrors. , 2011, , .		3
97	Large Strain Viscoelastic Model for Balloon Film. , 2011, , .		7
98	Multi-objective optimization of free-form grid structures. Structural and Multidisciplinary Optimization, 2010, 40, 257-269.	3.5	63
99	Maximally stable lobed balloons. International Journal of Solids and Structures, 2010, 47, 1496-1507.	2.7	12
100	Shape correction of thin mirrors in a reconfigurable modular space telescope. Proceedings of SPIE, 2010, , .	0.8	5
101	Shape Recovery of Viscoelastic Deployable Structures. , 2010, , .		10
102	Wrinkling of Orthotropic Viscoelastic Membranes. , 2010, , .		1
103	Topological Optimization of Compliant Adaptive Wing Structure. AIAA Journal, 2009, 47, 523-534.	2.6	49
104	Folding of Thin Composite Structures with a Soft Matrix. , 2009, , .		1
105	Anisotropic Viscoelasticity and Wrinkling of Superpressure Balloons: Simulation and Experimental Verification. , 2009, , .		4
106	Nonlinear vibration of cable-stiffened pantographic deployable structures. Journal of Sound and Vibration, 2008, 314, 783-802.	3.9	29
107	Viscoelastic behaviour of pumpkin balloons. Advances in Space Research, 2008, 42, 1683-1690.	2.6	13
108	Computation of Partially Inflated Shapes of Stratospheric Balloon Structures. , 2008, , .		9

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109	Compliant multistable structural elements. International Journal of Solids and Structures, 2008, 45, 6190-6204.	2.7	39
110	Folding Large Antenna Tape Spring. Journal of Spacecraft and Rockets, 2008, 45, 560-567.	1.9	40
111	Systematically Creased Thin-Film Membrane Structures. Journal of Spacecraft and Rockets, 2008, 45, 10-18.	1.9	52
112	Space Frames with Multiple Stable Configurations. AIAA Journal, 2007, 45, 1740-1747.	2.6	43
113	ABD Matrix of Single-Ply Triaxial Weave Fabric Composites. , 2007, , .		28
114	Buckling pressure of "pumpkin" balloons. International Journal of Solids and Structures, 2007, 44, 6963-6986.	2.7	33
115	Wrinkled membranes II: analytical models. Journal of Mechanics of Materials and Structures, 2006, 1, 27-61.	0.6	125
116	Wrinkled membranes I: experiments. Journal of Mechanics of Materials and Structures, 2006, 1, 3-25.	0.6	155
117	Wrinkled membranes III: numerical simulations. Journal of Mechanics of Materials and Structures, 2006, 1, 63-95.	0.6	160
118	Stability of lobed balloons. Advances in Space Research, 2006, 37, 2059-2069.	2.6	6
119	Thin-Shell Deployable Reflectors with Collapsible Stiffeners Part 1: Approach. AIAA Journal, 2006, 44, 2515-2523.	2.6	32
120	Composite Tube Hinges. Journal of Aerospace Engineering, 2005, 18, 224-231.	1.4	51
121	Shape optimization of cover plates for retractable roof structures. Computers and Structures, 2004, 82, 1227-1236.	4.4	36
122	Bistable prestressed shell structures. International Journal of Solids and Structures, 2004, 41, 2801-2820.	2.7	198
123	A Novel Actuated Composite Tape-Spring for Deployable Structures. , 2004, , .		40
124	Modelling of Seabed Interaction in Frequency Domain Analysis of Mooring Cables. , 2003, , 663.		5
125	Deployable Tensegrity Reflectors for Small Satellites. Journal of Spacecraft and Rockets, 2002, 39, 701-709.	1.9	172
126	Vibration of Prestressed Membrane Structures in Air. , 2002, , .		18

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127	Folding and deployment of curved tape springs. International Journal of Mechanical Sciences, 2000, 42, 2055-2073.	6.7	122
128	An introduction to the analysis of symmetric structures. Computers and Structures, 1999, 71, 671-688.	4.4	91
129	A new concept for solid surface deployable antennas. Acta Astronautica, 1996, 38, 103-113.	3.2	115
130	Large retractable appendages in spacecraft. Journal of Spacecraft and Rockets, 1995, 32, 1006-1014.	1.9	39
131	Matrix formulation of macro-elements for deployable structures. Computers and Structures, 1994, 50, 237-254.	4.4	41
132	Structural computations with the singular value decomposition of the equilibrium matrix. International Journal of Solids and Structures, 1993, 30, 3025-3035.	2.7	334
133	Prestressing a space structure. AIAA Journal, 1993, 31, 1961-1963.	2.6	33
134	Further remarks on first-order infinitesimal mechanisms. International Journal of Solids and Structures, 1992, 29, 2119-2122.	2.7	29
135	reduction of equilibrium, compatibility and flexibility matrices, in the force method. International Journal for Numerical Methods in Engineering, 1992, 35, 1219-1236.	2.8	24
136	First-order infinitesimal mechanisms. International Journal of Solids and Structures, 1991, 27, 505-515.	2.7	174
137	Analysis of prestressed mechanisms. International Journal of Solids and Structures, 1990, 26, 1329-1350.	2.7	161
138	Solution of equilibrium equations in the force method: A compact band scheme for underdetermined linear systems. Computers and Structures, 1990, 37, 743-751.	4.4	14
139	Matrix analysis of statically and kinematically indeterminate frameworks. International Journal of Solids and Structures, 1986, 22, 409-428.	2.7	618