Alberto M CuitiÃ±o

List of Publications by Year
in descending order

78 papers	3,132 citations	159358 30 h-index	155451 55 g-index
80 all docs	80 docs citations	80 times ranked	2378 citing authors

#	Article	IF	Citations
1	Nanoscale phase field microelasticity theory of dislocations: model and 3D simulations. Acta Materialia, 2001, 49, 1847-1857.	3.8	363
2	Investigation of three-dimensional aspects of grain-scale plastic surface deformation of an aluminum oligocrystal. International Journal of Plasticity, 2008, 24, 2278-2297.	4.1	258
3	A phase-field theory of dislocation dynamics, strain hardening and hysteresis in ductile single crystals. Journal of the Mechanics and Physics of Solids, 2002, 50, 2597-2635.	2.3	252
4	Finite elements with displacement interpolated embedded localization lines insensitive to mesh size and distortions. International Journal for Numerical Methods in Engineering, 1990, 30, 541-564.	1.5	185
5	Ductile fracture by vacancy condensation in f.c.c. single crystals. Acta Materialia, 1996, 44, 427-436.	3.8	132
6	Full-field measurements of heterogeneous deformation patterns on polymeric foams using digital image correlation. International Journal of Solids and Structures, 2002, 39, 3777-3796.	1.3	126
7	A study of surface roughening in fcc metals using direct numerical simulation. Acta Materialia, 2004, 52, 5791-5804.	3.8	104
8	Phase field microelasticity theory and modeling of multiple dislocation dynamics. Applied Physics Letters, 2001, 78, 2324-2326.	1.5	95
9	Three-dimensional nonlinear open-cell foams with large deformations. Journal of the Mechanics and Physics of Solids, 2000, 48, 961-988.	2.3	85
10	Influence of in-grain mesh resolution on the prediction of deformation textures in fcc polycrystals by crystal plasticity FEM. Acta Materialia, 2007, 55, 2361-2373.	3.8	80
11	Review of bilayer tablet technology. International Journal of Pharmaceutics, 2014, 461, 549-558.	2.6	80
12	A micromechanical model of hardening, rate sensitivity and thermal softening in BCC single crystals. Journal of the Mechanics and Physics of Solids, 2002, 50, 1511-1545.	2.3	77
13	Mixing order of glidant and lubricant â€“ Influence on powder and tablet properties. International Journal of Pharmaceutics, 2011, 409, 269-277.	2.6	63
14	Enabling real time release testing by NIR prediction of dissolution of tablets made by continuous direct compression (CDC). International Journal of Pharmaceutics, 2016, 512, 96-107.	2.6	59
15	A Quantitative Correlation of the Effect of Density Distributions in Roller-Compacted Ribbons on the Mechanical Properties of Tablets Using Ultrasonics and X-ray Tomography. AAPS PharmSciTech, 2011, 12, 834-853.	1.5	57
16	Prediction of dissolution profiles by non-destructive near infrared spectroscopy in tablets subjected to different levels of strain. Journal of Pharmaceutical and Biomedical Analysis, 2016, 117, 568-576.	1.4	54
17	A nonlocal contact formulation for confined granular systems. Journal of the Mechanics and Physics of Solids, 2012, 60, 333-350.	2.3	52
18	Three-dimensional crack-tip fields in four-point-bending copper single-crystal specimens. Journal of the Mechanics and Physics of Solids, 1996, 44, 863-904.	2.3	48

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19	Constitutive modeling of L12 intermetallic crystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1993, 170, 111-123.	2.6	45
20	Prediction of conductive heating time scales of particles in a rotary drum. Chemical Engineering Science, 2016, 152, 45-54.	1.9	44
21	Mechanistic characterization of bilayer tablet formulations. Powder Technology, 2013, 236, 30-36.	2.1	40
22	Oscillatory Thermomechanical Instability of an Ultrathin Catalyst. Science, 2003, 300, 1932-1936.	6.0	39
23	Efficient and robust constitutive integrators for single-crystal plasticity modeling. International Journal of Plasticity, 2006, 22, 1988-2011.	4.1	39
24	A Vlasov beam element. Computers and Structures, 1989, 33, 187-196.	2.4	37
25	Application of phase field microelasticity theory of phase transformations to dislocation dynamics: Model and three-dimensional simulations in a single crystal. Philosophical Magazine Letters, 2001, 81, 385-393.	0.5	35
26	Evaluation of the Performance Characteristics of Bilayer Tablets: Part I. Impact of Material Properties and Process Parameters on the Strength of Bilayer Tablets. AAPS PharmSciTech, 2012, 13, 1236-1242.	1.5	35
27	Influence of compaction properties and interfacial topography on the performance of bilayer tablets. International Journal of Pharmaceutics, 2012, 436, 171-178.	2.6	32
28	A multiscale approach for modeling crystalline solids. Journal of Computer-Aided Materials Design, 2001, 8, 127-149.	0.7	31
29	Modeling and simulation of the coupled mechanicalâ€“electrical response of soft solids. International Journal of Plasticity, 2011, 27, 1459-1470.	4.1	31
30	Measurement of residence time distribution in a rotary calciner. AICHE Journal, 2013, 59, 4068-4076.	1.8	31
31	The energetics of heterogeneous deformation in open-cell solid foams. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2001, 457, 1079-1096.	1.0	30
32	An explicit formulation for multiscale modeling of bcc metals. International Journal of Plasticity, 2008, 24, 2173-2191.	4.1	29
33	Toward predicting tensile strength of pharmaceutical tablets by ultrasound measurement in continuous manufacturing. International Journal of Pharmaceutics, 2016, 507, 83-89.	2.6	27
34	Evolution of the microstructure during the process of consolidation and bonding in soft granular solids. International Journal of Pharmaceutics, 2016, 503, 68-77.	2.6	25
35	Evaluation of strain-induced hydrophobicity of pharmaceutical blends and its effect on drug release rate under multiple compression conditions. Drug Development and Industrial Pharmacy, 2011, 37, 428-435.	0.9	24
36	The role of fine particles on compaction and tensile strength of pharmaceutical powders. Powder Technology, 2015, 274, 372-378.	2.1	22

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37	The effect of operating conditions on the residence time distribution and axial dispersion coefficient of a cohesive powder in a rotary kiln. Chemical Engineering Science, 2017, 158, 50-57.	1.9	22
38	Modeling the dynamic response of visco-elastic open-cell foams. Journal of the Mechanics and Physics of Solids, 2008, 56, 1916-1943.	2.3	20
39	The effect of mechanical strain on properties of lubricated tablets compacted at different pressures. Powder Technology, 2016, 301, 657-664.	2.1	18
40	Microstructure evolution of compressible granular systems under large deformations. Journal of the Mechanics and Physics of Solids, 2016, 93, 44-56.	2.3	18
41	Modeling and simulation of compact strength due to particle bonding using a hybrid discrete-continuum approach. International Journal of Pharmaceutics, 2011, 418, 273-285.	2.6	17
42	A simple color concentration measurement technique for powders. Powder Technology, 2015, 286, 392-400.	2.1	17
43	Quantification of lubrication and particle size distribution effects on tensile strength and stiffness of tablets. Powder Technology, 2018, 336, 360-374.	2.1	17
44	General and mechanistic optimal relationships for tensile strength of doubly convex tablets under diametrical compression. International Journal of Pharmaceutics, 2015, 484, 29-37.	2.6	16
45	Taylor Averaging on Heterogeneous Foams. Journal of Composite Materials, 2003, 37, 701-713.	1.2	13
46	Effects of particle size disparity on the compaction behavior of binary mixtures of pharmaceutical powders. Powder Technology, 2013, 236, 5-11.	2.1	13
47	Fatigue of As-Fabricated Open Cell Aluminum Foams. Journal of Engineering Materials and Technology, Transactions of the ASME, 2005, 127, 40-45.	0.8	12
48	Anisotropic crystal deformation measurements determined using powder X-ray diffraction and a new in situ compression stage. International Journal of Pharmaceutics, 2011, 418, 199-206.	2.6	12
49	Evaluation of the Performance Characteristics of Bilayer Tablets: Part II. Impact of Environmental Conditions on the Strength of Bilayer Tablets. AAPS PharmSciTech, 2012, 13, 1190-1196.	1.5	12
50	Prediction of tablet weight variability in continuous manufacturing. International Journal of Pharmaceutics, 2020, 575, 118727.	2.6	12
51	Effect of temperature and stacking fault energy on the hardening of FCC crystals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1996, 216, 104-116.	2.6	11
52	Investigation of the viscoelasticity of human osteosarcoma cells using a shear assay method. Journal of Materials Research, 2006, 21, 1922-1930.	1.2	11
53	Micro-RVE modeling of mechanistic response in porous intermetallics subject to weak and moderate impact loading. International Journal of Plasticity, 2013, 51, 1-32.	4.1	10
54	On the measurement of human osteosarcoma cell elastic modulus using shear assay experiments. Journal of Materials Science: Materials in Medicine, 2007, 18, 103-109.	1.7	9

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55	AFM study of hydrophilicity on acetaminophen crystals. International Journal of Pharmaceutics, 2012, 438, 184-190.	2.6	9
56	Characterization of interfacial strength of layered powder-compacted solids. Powder Technology, 2013, 239, 300-307.	2.1	9
57	In situstudies of microbial inactivation during high pressure processing. High Pressure Research, 2016, 36, 79-89.	0.4	9
58	Investigating the Effect of APAP Crystals on Tablet Behavior Manufactured by Direct Compression. AAPS PharmSciTech, 2019, 20, 168.	1.5	8
59	Consolidation Behavior of Inhomogeneous Granular Beds of Ductile Particles using a Mixed Discrete-Continuum Approach. KONA Powder and Particle Journal, 2002, 20, 168-177.	0.9	8
60	Measurement of the residence time distribution of a cohesive powder in a flighted rotary kiln. Chemical Engineering Science, 2018, 191, 56-66.	1.9	7
61	DEM analysis of the thermal treatment of granular materials in a rotary drum equipped with baffles. Chemical Engineering Science, 2022, 251, 117476.	1.9	7
62	Biomechanical Alterations in Intact Osteoporotic Spine Due to Synthetic Augmentation: Finite Element Investigation. Journal of Biomechanical Engineering, 2007, 129, 575-585.	0.6	6
63	Modeling of Dynamically Loaded Open-Cell Metallic Foams: Yielding, Collapse, and Strain Rate Effects. Journal of Applied Mechanics, Transactions ASME, 2010, 77, .	1.1	6
64	Particle size induced heterogeneity in compacted powders: Effect of large particles. Advanced Powder Technology, 2018, 29, 2978-2986.	2.0	6
65	Solvent Penetration Rate in Tablet Measurement Using Video Image Processing. AAPS PharmSciTech, 2012, 13, 507-512.	1.5	4
66	Variations in predicting domain switching of ferroelectric ceramics. Acta Mechanica, 2012, 223, 2243-2256.	1.1	4
67	Flow of a moderately cohesive FCC catalyst in two pilot-scale rotary calciners: Residence time distribution and bed depth measurements with and without dams. Chemical Engineering Science, 2021, 230, 116211.	1.9	4
68	Direct Numerical Simulation of Polycrystals. , 2003, , .		3
69	Characterization and Prediction of the Fracture Response of Solid Food Foams. , 2008, , 163-174.		2
70	Transient Temperature Monitoring of Pharmaceutical Tablets During Compaction Using Infrared Thermography. AAPS PharmSciTech, 2018, 19, 2426-2433.	1.5	2
71	Capillary models of solvent diffusion. Chemical Engineering Science, 2013, 101, 515-522.	1.9	1
72	Thermo-mechanical Behavior of Confined Granular Systems. Lecture Notes in Applied and Computational Mechanics, 2016, , 41-57.	2.0	1

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73	A Parametric Study on Material Properties of Cortical Shell and Trabecular Core in an Osteoporotic, Lumbar Vertebral Bone Model. , 2004, , .		1
74	Effective Thermal Expansion Property of Consolidated Granular Materials. Materials, 2017, 10, 1289.	1.3	0
75	Biomechanics of Vertebroplasty. , 2002, , .		0
76	MULTISCALE MODELING OF DEGRADATION AND FAILURE OF INTERCONNECT LINES DRIVEN BY ELECTROMIGRATION AND STRESS GRADIENTS. Lecture Notes Series, Institute for Mathematical Sciences, 2005, , 335-383.	0.2	0
77	Continuous dry granulation. , 2022, , 93-118.		0
78	Continuous tableting. , 2022, , 159-177.		0