

Elias C Aifantis

List of Publications by Year in descending order

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255
papers

12,075
citations

28274

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29157

104
g-index

262
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262
docs citations

262
times ranked

3498
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | On the role of gradients in the localization of deformation and fracture. <i>International Journal of Engineering Science</i> , 1992, 30, 1279-1299. | 5.0 | 887 |
| 2 | The physics of plastic deformation. <i>International Journal of Plasticity</i> , 1987, 3, 211-247. | 8.8 | 855 |
| 3 | Gradient elasticity in statics and dynamics: An overview of formulations, length scale identification procedures, finite element implementations and new results. <i>International Journal of Solids and Structures</i> , 2011, 48, 1962-1990. | 2.7 | 684 |
| 4 | Update on a class of gradient theories. <i>Mechanics of Materials</i> , 2003, 35, 259-280. | 3.2 | 442 |
| 5 | A simple approach to solve boundary-value problems in gradient elasticity. <i>Acta Mechanica</i> , 1993, 101, 59-68. | 2.1 | 371 |
| 6 | A gradient approach to localization of deformation. I. Hyperelastic materials. <i>Journal of Elasticity</i> , 1986, 16, 225-237. | 1.9 | 333 |
| 7 | On the theory of consolidation with double porosity. <i>International Journal of Engineering Science</i> , 1982, 20, 1009-1035. | 5.0 | 298 |
| 8 | On the structure of the mode III crack-tip in gradient elasticity. <i>Scripta Metallurgica Et Materialia</i> , 1992, 26, 319-324. | 1.0 | 277 |
| 9 | A gradient flow theory of plasticity for granular materials. <i>Acta Mechanica</i> , 1991, 87, 197-217. | 2.1 | 240 |
| 10 | Observation and measurement of grain rotation and plastic strain in nanostructured metal thin films. <i>Scripta Materialia</i> , 1995, 5, 689-697. | 0.5 | 229 |
| 11 | On the gradient approach – Relation to Eringen’s nonlocal theory. <i>International Journal of Engineering Science</i> , 2011, 49, 1367-1377. | 5.0 | 201 |
| 12 | Dislocation patterning in fatigued metals as a result of dynamical instabilities. <i>Journal of Applied Physics</i> , 1985, 58, 688-691. | 2.5 | 200 |
| 13 | Gradient elasticity and flexural wave dispersion in carbon nanotubes. <i>Physical Review B</i> , 2009, 80, . | 3.2 | 174 |
| 14 | ON THE THEORY OF DIFFUSION IN MEDIA WITH DOUBLE DIFFUSIVITY I. BASIC MATHEMATICAL RESULTS. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 1980, 33, 1-21. | 1.3 | 167 |
| 15 | On a theory of nonlocal elasticity of bi-Helmholtz type and some applications. <i>International Journal of Solids and Structures</i> , 2006, 43, 1404-1421. | 2.7 | 156 |
| 16 | A simple, mixtures-based model for the grain size dependence of strength in nanophase metals. <i>Scripta Materialia</i> , 1995, 5, 441-448. | 0.5 | 155 |
| 17 | Dislocations in second strain gradient elasticity. <i>International Journal of Solids and Structures</i> , 2006, 43, 1787-1817. | 2.7 | 154 |
| 18 | On the gradient-dependent theory of plasticity and shear banding. <i>Acta Mechanica</i> , 1992, 92, 209-225. | 2.1 | 149 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 19 | Some links between recent gradient thermo-elasto-plasticity theories and the thermomechanics of generalized continua. <i>International Journal of Solids and Structures</i> , 2010, 47, 3367-3376. | 2.7 | 143 |
| 20 | On the formation and stability of dislocation patternsâ€”I: One-dimensional considerations. <i>International Journal of Engineering Science</i> , 1985, 23, 1351-1358. | 5.0 | 131 |
| 21 | On the â€œAnomalousâ€ hardness of nanocrystalline materials. <i>Scripta Materialia</i> , 1998, 10, 1111-1118. | 0.5 | 123 |
| 22 | On the theory of consolidation with double porosityâ€”II. <i>International Journal of Engineering Science</i> , 1986, 24, 1697-1716. | 5.0 | 118 |
| 23 | Gradient elasticity with surface energy: mode-III crack problem. <i>International Journal of Solids and Structures</i> , 1996, 33, 4531-4559. | 2.7 | 118 |
| 24 | On the dynamical origin of dislocation patterns. <i>Materials Science and Engineering</i> , 1986, 81, 563-574. | 0.1 | 109 |
| 25 | Exploring the applicability of gradient elasticity to certain micro/nano reliability problems. <i>Microsystem Technologies</i> , 2009, 15, 109-115. | 2.0 | 106 |
| 26 | Gradient Effects at Macro, Micro, and Nano Scales. <i>Journal of the Mechanical Behavior of Materials</i> , 1994, 5, 355-375. | 1.8 | 103 |
| 27 | Pattern formation in plasticity. <i>International Journal of Engineering Science</i> , 1995, 33, 2161-2178. | 5.0 | 103 |
| 28 | On the concept of relative and plastic spins and its implications to large deformation theories. Part I: Hypoelasticity and vertex-type plasticity. <i>Acta Mechanica</i> , 1988, 75, 15-33. | 2.1 | 102 |
| 29 | Self-Affine Surface Morphology of Plastically Deformed Metals. <i>Physical Review Letters</i> , 2004, 93, 195507. | 7.8 | 99 |
| 30 | Internal Length Gradient (ILG) Material Mechanics Across Scales and Disciplines. <i>Advances in Applied Mechanics</i> , 2016, 49, 1-110. | 2.3 | 98 |
| 31 | On a proposal for a continuum with microstructure. <i>Acta Mechanica</i> , 1982, 45, 91-121. | 2.1 | 97 |
| 32 | On dislocations in a special class of generalized elasticity. <i>Physica Status Solidi (B): Basic Research</i> , 2005, 242, 2365-2390. | 1.5 | 96 |
| 33 | The mechanical theory of fluid interfaces and Maxwell's rule. <i>Journal of Colloid and Interface Science</i> , 1983, 96, 517-529. | 9.4 | 94 |
| 34 | A model for finite-deformation plasticity. <i>Acta Mechanica</i> , 1987, 69, 97-117. | 2.1 | 86 |
| 35 | Stress concentrations in fractured compact bone simulated with a special class of anisotropic gradient elasticity. <i>International Journal of Solids and Structures</i> , 2010, 47, 1099-1107. | 2.7 | 86 |
| 36 | Title is missing!. <i>International Journal of Fracture</i> , 2002, 117, 347-358. | 2.2 | 82 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | Gradient Elasticity Theories in Statics and Dynamics - A Unification of Approaches. <i>International Journal of Fracture</i> , 2006, 139, 297-304. | 2.2 | 80 |
| 38 | A new interpretation of diffusion in high-diffusivity paths – a continuum approach. <i>Acta Metallurgica</i> , 1979, 27, 683-691. | 2.1 | 75 |
| 39 | A damage model for ductile metals. <i>Nuclear Engineering and Design</i> , 1989, 116, 355-362. | 1.7 | 75 |
| 40 | Gradient dependent dilatancy and its implications in shear banding and liquefaction. <i>Ingenieur-Archiv</i> , 1989, 59, 197-208. | 0.6 | 75 |
| 41 | Introductory remarks to the viewpoint set on propagative plastic instabilities. <i>Scripta Metallurgica Et Materialia</i> , 1993, 29, 1147-1150. | 1.0 | 73 |
| 42 | Randomness and slip avalanches in gradient plasticity. <i>International Journal of Plasticity</i> , 2006, 22, 1432-1455. | 8.8 | 73 |
| 43 | Finite element analysis with staggered gradient elasticity. <i>Computers and Structures</i> , 2008, 86, 1266-1279. | 4.4 | 72 |
| 44 | On the formation and stability of dislocation patterns – II: Two-dimensional considerations. <i>International Journal of Engineering Science</i> , 1985, 23, 1359-1364. | 5.0 | 69 |
| 45 | On the structure and width of shear bands. <i>Scripta Metallurgica</i> , 1988, 22, 703-708. | 1.2 | 67 |
| 46 | Equilibrium solutions in the mechanical theory of fluid microstructures. <i>Journal of Colloid and Interface Science</i> , 1983, 96, 530-547. | 9.4 | 65 |
| 47 | On the concept of relative and plastic spins and its implications to large deformation theories. Part II: Anisotropic hardening plasticity. <i>Acta Mechanica</i> , 1988, 75, 35-56. | 2.1 | 64 |
| 48 | Cracks in gradient elastic bodies with surface energy. <i>International Journal of Fracture</i> , 1996, 79, 107-119. | 2.2 | 63 |
| 49 | The Representative Volume Size in Static and Dynamic Micro-Macro Transitions. <i>International Journal of Fracture</i> , 2005, 135, L3-L9. | 2.2 | 63 |
| 50 | Gradient Nanomechanics: Applications to Deformation, Fracture, and Diffusion in Nanopolycrystals. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2011, 42, 2985-2998. | 2.2 | 62 |
| 51 | A gradient-dependent model for the Portevin-Le Chatelier effect. <i>Scripta Metallurgica</i> , 1988, 22, 1331-1336. | 1.2 | 61 |
| 52 | Effect of cooperative grain boundary sliding and migration on crack growth in nanocrystalline solids. <i>Acta Materialia</i> , 2011, 59, 5023-5031. | 7.9 | 61 |
| 53 | Special rotational deformation as a toughening mechanism in nanocrystalline solids. <i>Journal of the Mechanics and Physics of Solids</i> , 2010, 58, 1088-1099. | 4.8 | 59 |
| 54 | On the formation and stability of dislocation patterns – III: Three-dimensional considerations. <i>International Journal of Engineering Science</i> , 1985, 23, 1365-1372. | 5.0 | 56 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 55 | Recent Developments in Gradient Plasticityâ€”Part I: Formulation and Size Effects. Journal of Engineering Materials and Technology, Transactions of the ASME, 2002, 124, 352-357. | 1.4 | 56 |
| 56 | Dislocations and Disclinations in Gradient Elasticity. Physica Status Solidi (B): Basic Research, 1999, 214, 245-284. | 1.5 | 55 |
| 57 | On dislocation patterning: Multiple slip effects in the rate equation approach. International Journal of Plasticity, 2006, 22, 1486-1505. | 8.8 | 55 |
| 58 | On the theory of stress-assisted diffusion, II. Acta Mechanica, 1983, 47, 117-151. | 2.1 | 54 |
| 59 | A double porosity model for acoustic wave propagation in fractured-porous rock. International Journal of Engineering Science, 1984, 22, 1209-1217. | 5.0 | 54 |
| 60 | The influence of microstructure-induced gradients on the localization of deformation in viscoplastic materials. Acta Mechanica, 1991, 89, 217-231. | 2.1 | 53 |
| 61 | Gradient material mechanics: Perspectives and Prospects. Acta Mechanica, 2014, 225, 999-1012. | 2.1 | 53 |
| 62 | Multiscale Analysis of Multiple Damage Mechanisms Coupled with Inelastic Behavior of Composite Materials. Journal of Engineering Mechanics - ASCE, 2001, 127, 636-645. | 2.9 | 52 |
| 63 | Vibrations of Double-Walled Carbon Nanotubes With Different Boundary Conditions Between Inner and Outer Tubes. Journal of Applied Mechanics, Transactions ASME, 2008, 75, . | 2.2 | 50 |
| 64 | Non-standard extensions of gradient elasticity: Fractional non-locality, memory and fractality. Communications in Nonlinear Science and Numerical Simulation, 2015, 22, 197-227. | 3.3 | 50 |
| 65 | Non-linearity, periodicity and patterning in plasticity and fracture. International Journal of Non-Linear Mechanics, 1996, 31, 797-809. | 2.6 | 49 |
| 66 | Geometrically necessary dislocations and strain gradient plasticityâ€”a dislocation dynamics point of view. Scripta Materialia, 2003, 48, 133-139. | 5.2 | 49 |
| 67 | A proposal for continuum with microstructure. Mechanics Research Communications, 1978, 5, 139-145. | 1.8 | 48 |
| 68 | Strain Gradient Crystal Plasticity: Thermomechanical Formulations and Applications. Journal of the Mechanical Behavior of Materials, 2002, 13, 219-232. | 1.8 | 47 |
| 69 | Eshelbyâ€™s inclusion problem in the gradient theory of elasticity: Applications to composite materials. International Journal of Engineering Science, 2011, 49, 1517-1525. | 5.0 | 45 |
| 70 | On the geometry of slip and spin in finite plastic deformation. International Journal of Plasticity, 1991, 7, 141-160. | 8.8 | 44 |
| 71 | A new formulation and Γ_0 -implementation of dynamically consistent gradient elasticity. International Journal for Numerical Methods in Engineering, 2007, 72, 111-126. | 2.8 | 44 |
| 72 | ON THE THEORY OF DIFFUSION IN MEDIA WITH DOUBLE DIFFUSIVITY II. BOUNDARY-VALUE PROBLEMS. Quarterly Journal of Mechanics and Applied Mathematics, 1980, 33, 23-42. | 1.3 | 43 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 73 | Longitudinal vibrations of a beam: A gradient elasticity approach. <i>Mechanics Research Communications</i> , 1996, 23, 35-40. | 1.8 | 43 |
| 74 | Remarks on media with microstructures. <i>International Journal of Engineering Science</i> , 1984, 22, 961-968. | 5.0 | 39 |
| 75 | Gradient elasticity and dispersive wave propagation: Model motivation and length scale identification procedures in concrete and composite laminates. <i>International Journal of Solids and Structures</i> , 2019, 158, 176-190. | 2.7 | 39 |
| 76 | Quasilinear Evolution Equations in Nonclassical Diffusion. <i>SIAM Journal on Mathematical Analysis</i> , 1988, 19, 110-120. | 1.9 | 38 |
| 77 | On the microscopic origin of the plastic spin. <i>Acta Mechanica</i> , 1990, 82, 31-48. | 2.1 | 38 |
| 78 | On the role of microstructure in the behavior of soils: Effects of higher order gradients and internal inertia. <i>Mechanics of Materials</i> , 1994, 18, 151-158. | 3.2 | 38 |
| 79 | Deformation and failure of bulk nanograined and ultrafine-grained materials. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 503, 190-197. | 5.6 | 38 |
| 80 | The asymptotic solution of gradient elasticity for mode III. <i>International Journal of Fracture</i> , 1995, 71, R27-R32. | 2.2 | 37 |
| 81 | On scale invariance in anisotropic plasticity, gradient plasticity and gradient elasticity. <i>International Journal of Engineering Science</i> , 2009, 47, 1089-1099. | 5.0 | 36 |
| 82 | Continuum basis for diffusion in regions with multiple diffusivity. <i>Journal of Applied Physics</i> , 1979, 50, 1334-1338. | 2.5 | 35 |
| 83 | Hydraulic Behavior and Contaminant Transport in Multiple Porosity Media. <i>Transport in Porous Media</i> , 2001, 42, 265-292. | 2.6 | 33 |
| 84 | On the direct interactions between heat transfer, mass transport and chemical processes within gradient elasticity. <i>European Journal of Mechanics, A/Solids</i> , 2007, 26, 68-87. | 3.7 | 33 |
| 85 | On the theory of stress-assisted diffusion, I. <i>Acta Mechanica</i> , 1982, 45, 273-296. | 2.1 | 32 |
| 86 | Instability of gradient-dependent elastoviscoplastic model for clay and strain localization analysis. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2000, 183, 67-86. | 6.6 | 30 |
| 87 | Existence and uniqueness in nonclassical diffusion. <i>Quarterly of Applied Mathematics</i> , 1987, 45, 549-560. | 0.7 | 28 |
| 88 | A refined nonlocal thermoelasticity theory for the vibration of nanobeams induced by ramp-type heating. <i>Applied Mathematics and Computation</i> , 2014, 248, 169-183. | 2.2 | 28 |
| 89 | State space approach for the vibration of nanobeams based on the nonlocal thermoelasticity theory without energy dissipation. <i>Journal of Mechanical Science and Technology</i> , 2015, 29, 2921-2931. | 1.5 | 28 |
| 90 | Anisotropic yield and plastic flow of polycrystalline solids. <i>International Journal of Plasticity</i> , 1996, 12, 1221-1240. | 8.8 | 27 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 91 | Strain gradient elasticity theory for antiplane shear cracks. Part I: Oscillatory displacements. <i>Theoretical and Applied Fracture Mechanics</i> , 2000, 34, 243-252. | 4.7 | 27 |
| 92 | Strain gradient and wavelet interpretation of size effects in yield and strength. <i>Mechanics of Materials</i> , 2003, 35, 733-745. | 3.2 | 27 |
| 93 | Dislocation patterning in fatigued metals: Labyrinth structures and rotational effects. <i>International Journal of Engineering Science</i> , 1986, 24, 1789-1798. | 5.0 | 25 |
| 94 | On the kinetic and diffusional nature of linear defects. <i>Scripta Metallurgica Et Materialia</i> , 1993, 29, 707-712. | 1.0 | 25 |
| 95 | A note on gradient elasticity and nonsingular crack fields. <i>Journal of the Mechanical Behavior of Materials</i> , 2012, 20, 103-105. | 1.8 | 25 |
| 96 | A Concise Review of Gradient Models in Mechanics and Physics. <i>Frontiers in Physics</i> , 2020, 7, . | 2.1 | 24 |
| 97 | Microscale size effects on the electromechanical coupling in piezoelectric material for anti-plane problem. <i>Smart Materials and Structures</i> , 2014, 23, 125043. | 3.5 | 23 |
| 98 | Further remarks on the implications of steady-state stress-assisted diffusion on environmental cracking. <i>Scripta Metallurgica</i> , 1982, 16, 1059-1064. | 1.2 | 22 |
| 99 | Stochastic and deterministic aspects of strain localization during cyclic plastic deformation. <i>Acta Materialia</i> , 1998, 46, 4143-4151. | 7.9 | 22 |
| 100 | Multiscale modeling of polymer materials using a statistics-based micromechanics approach. <i>Acta Materialia</i> , 2009, 57, 525-532. | 7.9 | 22 |
| 101 | On the role of micro-inertia in enriched continuum mechanics. <i>Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences</i> , 2017, 473, 20160722. | 2.1 | 22 |
| 102 | A theoretical review of stress relaxation testing. <i>Materials Science and Engineering</i> , 1975, 21, 107-113. | 0.1 | 20 |
| 103 | On Barenblatt's problem. <i>International Journal of Engineering Science</i> , 1980, 18, 857-867. | 5.0 | 20 |
| 104 | Heat extraction from hot dry rocks. <i>Mechanics Research Communications</i> , 1980, 7, 165-170. | 1.8 | 20 |
| 105 | Strain gradient elasticity theory for antiplane shear cracks. Part II: Monotonic displacements. <i>Theoretical and Applied Fracture Mechanics</i> , 2000, 34, 253-265. | 4.7 | 20 |
| 106 | On fractional and fractal formulations of gradient linear and nonlinear elasticity. <i>Acta Mechanica</i> , 2019, 230, 2043-2070. | 2.1 | 20 |
| 107 | Further comments on the problem of heat extraction from hot dry rocks. <i>Mechanics Research Communications</i> , 1980, 7, 219-226. | 1.8 | 19 |
| 108 | On anisotropic finite deformation plasticity part I. A two-back stress model. <i>Acta Mechanica</i> , 1994, 106, 55-72. | 2.1 | 19 |

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|-----|--|-----|-----------|
| 109 | A note on the problem of shear localization during chip formation in orthogonal machining. <i>Journal of Materials Engineering and Performance</i> , 1997, 6, 25-26. | 2.5 | 19 |
| 110 | On non-singular GRADELA crack fields. <i>Theoretical and Applied Mechanics Letters</i> , 2014, 4, 051005. | 2.8 | 19 |
| 111 | Nonlocal Thermoelasticity Theory for Thermal-Shock Nanobeams with Temperature-Dependent Thermal Conductivity. <i>Journal of Thermal Stresses</i> , 2015, 38, 1049-1067. | 2.0 | 19 |
| 112 | Strain gradient and electric field gradient effects in piezoelectric cantilever beams. <i>Journal of the Mechanical Behavior of Materials</i> , 2015, 24, 121-127. | 1.8 | 19 |
| 113 | Dislocations and disclinations in the gradient theory of elasticity. <i>Physics of the Solid State</i> , 1999, 41, 1980-1988. | 0.6 | 18 |
| 114 | On the stochastic interpretation of gradient-dependent constitutive equations. <i>European Journal of Mechanics, A/Solids</i> , 2002, 21, 589-596. | 3.7 | 18 |
| 115 | Disclinations in nanocrystalline materials: Manifestation of the relay mechanism of plastic deformation. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2009, 503, 62-67. | 5.6 | 18 |
| 116 | Diffusion of a perfect fluid in a linear elastic stress field. <i>Mechanics Research Communications</i> , 1976, 3, 245-250. | 1.8 | 17 |
| 117 | On the size and shape of the process zone. <i>Engineering Fracture Mechanics</i> , 1987, 26, 491-503. | 4.3 | 17 |
| 118 | Recent Developments in Gradient Plasticity—Part II: Plastic Heterogeneity and Wavelets. <i>Journal of Engineering Materials and Technology, Transactions of the ASME</i> , 2002, 124, 358-364. | 1.4 | 17 |
| 119 | Numerical simulation of interface crack in thin films. <i>International Journal of Fracture</i> , 1999, 98, 195-207. | 2.2 | 16 |
| 120 | On some applications of gradient elasticity to composite materials. <i>Composite Structures</i> , 2001, 53, 189-197. | 5.8 | 16 |
| 121 | Analysis of serrations and shear bands fractality in UFGs. <i>Journal of the Mechanical Behavior of Materials</i> , 2015, 24, 1-9. | 1.8 | 16 |
| 122 | Size effects on magnetoelectric response of multiferroic composite with inhomogeneities. <i>Physica B: Condensed Matter</i> , 2015, 478, 36-42. | 2.7 | 16 |
| 123 | Gaseous diffusion in a stressed-thermoelastic solid. Part I: The thermomechanical formulation. <i>Acta Mechanica</i> , 1977, 28, 1-24. | 2.1 | 15 |
| 124 | The method of caustics in environmental cracking. <i>Engineering Fracture Mechanics</i> , 1986, 23, 423-430. | 4.3 | 15 |
| 125 | On the length of crack jump during subcritical growth. <i>Engineering Fracture Mechanics</i> , 1987, 26, 505-518. | 4.3 | 15 |
| 126 | Dislocation-based gradient elastic fracture mechanics for in-plane analysis of cracks. <i>International Journal of Fracture</i> , 2016, 202, 93-110. | 2.2 | 15 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 127 | Stochastically forced dislocation density distribution in plastic deformation. <i>Physical Review E</i> , 2016, 94, 022139. | 2.1 | 15 |
| 128 | Thermodynamic coupling between gradient elasticity and a Cahn–Hilliard type of diffusion: size-dependent spinodal gaps. <i>Continuum Mechanics and Thermodynamics</i> , 2017, 29, 1181-1194. | 2.2 | 15 |
| 129 | Characterization of yield surfaces using balanced biaxial tests of cruciform plate specimens. <i>Scripta Metallurgica Et Materialia</i> , 1993, 28, 617-622. | 1.0 | 14 |
| 130 | Gaseous diffusion in a stressed-thermoelastic solid. Part II: Thermodynamic structure and transport theory. <i>Acta Mechanica</i> , 1977, 28, 25-47. | 2.1 | 13 |
| 131 | Environmental cracking under mixed-mode conditions. <i>Engineering Fracture Mechanics</i> , 1986, 23, 431-439. | 4.3 | 13 |
| 132 | Deformation vs. flow and wavelet-based models of gradient plasticity: Examples of axial symmetry. <i>International Journal of Plasticity</i> , 2006, 22, 1456-1485. | 8.8 | 13 |
| 133 | Unconstrained and Cauchy-Born-constrained atomistic systems: deformational and configurational mechanics. <i>Archive of Applied Mechanics</i> , 2011, 81, 669-684. | 2.2 | 13 |
| 134 | Structural transformations in nano- and microobjects triggered by disclinations. <i>Journal of Materials Research</i> , 2012, 27, 545-551. | 2.6 | 13 |
| 135 | Free transverse vibrations of a double-walled carbon nanotube: gradient and internal inertia effects. <i>Acta Mechanica Solida Sinica</i> , 2014, 27, 345-352. | 1.9 | 13 |
| 136 | A gradient elastic homogenisation model for brick masonry. <i>Engineering Structures</i> , 2020, 208, 110311. | 5.3 | 13 |
| 137 | Gradient Plasticity. , 2001, , 281-297. | | 13 |
| 138 | On the theory of diffusion in linear viscoelastic media. <i>Acta Mechanica</i> , 1982, 44, 259-298. | 2.1 | 12 |
| 139 | Misfit Dislocation Patterning in Thin Films. <i>Physica Status Solidi (B): Basic Research</i> , 1998, 209, 295-304. | 1.5 | 12 |
| 140 | Toward fractional gradient elasticity. <i>Journal of the Mechanical Behavior of Materials</i> , 2014, 23, 41-46. | 1.8 | 12 |
| 141 | Gradient Extension of Classical Material Models: From Nuclear & Condensed Matter Scales to Earth & Cosmological Scales. <i>Springer Tracts in Mechanical Engineering</i> , 2021, , 417-452. | 0.3 | 12 |
| 142 | A preliminary study of stress-assisted fluid penetration in ceramic bricks. <i>Journal of the European Ceramic Society</i> , 2000, 20, 489-495. | 5.7 | 11 |
| 143 | Nonsingular dislocation and crack fields: implications to small volumes. <i>Microsystem Technologies</i> , 2009, 15, 117-121. | 2.0 | 11 |
| 144 | Elastic bending analysis of bilayered beams containing a gradient layer by an alternative two-variable method. <i>Composite Structures</i> , 2011, 93, 3130-3130. | 5.8 | 11 |

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|-----|---|-----|-----------|
| 145 | Diffusion of a gas in a linear elastic solid. <i>Acta Mechanica</i> , 1978, 29, 169-184. | 2.1 | 10 |
| 146 | A new form of exact solutions for mode I, II, III crack problems and implications. <i>Engineering Fracture Mechanics</i> , 1978, 10, 95-108. | 4.3 | 10 |
| 147 | On the thermodynamic theory of fluid interfaces: Infinite intervals, equilibrium solutions, and minimizers. <i>Journal of Colloid and Interface Science</i> , 1986, 111, 119-132. | 9.4 | 10 |
| 148 | Possible Role of Deformation-Induced Point Defects in Dislocation Patterning. <i>Physica Status Solidi (B): Basic Research</i> , 1990, 157, 117-128. | 1.5 | 10 |
| 149 | Some exactly solvable models for the statistical evolution of internal variables during plastic deformation. <i>Probabilistic Engineering Mechanics</i> , 2000, 15, 131-138. | 2.7 | 10 |
| 150 | Edge dislocations near phase boundaries in the gradient theory of elasticity. <i>Physics of the Solid State</i> , 2000, 42, 1659-1667. | 0.6 | 10 |
| 151 | Gradient effects in micro-/nanoindentation. <i>Materials Science and Technology</i> , 2012, 28, 1072-1078. | 1.6 | 10 |
| 152 | Portevin-Le Chatelier effect and Tsallis nonextensive statistics. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2015, 438, 509-518. | 2.6 | 10 |
| 153 | On the Effect of Strain Gradient on Adiabatic Shear Banding. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2015, 46, 4459-4467. | 2.2 | 10 |
| 154 | Gradient-enriched finite element methodology for axisymmetric problems. <i>Acta Mechanica</i> , 2017, 228, 1423-1444. | 2.1 | 10 |
| 155 | Generation of circular prismatic dislocation loops in decahedral small particles. <i>Scripta Materialia</i> , 2018, 146, 77-81. | 5.2 | 10 |
| 156 | CuO nanowhiskers: Preparation, structure features, properties, and applications. <i>Materials Science and Technology</i> , 2018, 34, 2126-2135. | 1.6 | 10 |
| 157 | Gradient elasticity and size effect for the borehole problem. <i>Acta Mechanica</i> , 2018, 229, 3305-3318. | 2.1 | 10 |
| 158 | Hydrogen-assisted cracking studies of 4340 steel by using the optical method of caustics. <i>Engineering Fracture Mechanics</i> , 1989, 33, 913-925. | 4.3 | 9 |
| 159 | Thermoviscoplastic shear instability and higher order strain gradients. <i>International Journal of Engineering Science</i> , 1991, 29, 1639-1650. | 5.0 | 9 |
| 160 | On finite deformation plasticity with directional softening. <i>Acta Mechanica</i> , 1993, 101, 69-80. | 2.1 | 9 |
| 161 | On anisotropic finite deformation plasticity Part II. A two-component model. <i>Acta Mechanica</i> , 1994, 106, 73-85. | 2.1 | 9 |
| 162 | Application of double diffusivity model to superconductors. <i>Journal of Materials Processing Technology</i> , 2001, 108, 185-187. | 6.3 | 9 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 163 | Scale-dependent constitutive relations and the role of scale on nominal properties. <i>European Journal of Mechanics, A/Solids</i> , 2001, 20, 925-936. | 3.7 | 9 |
| 164 | Gradient elasticity applied to a crack. <i>Journal of the Mechanical Behavior of Materials</i> , 2013, 22, 193-201. | 1.8 | 9 |
| 165 | Capturing wave dispersion in heterogeneous and microstructured materials through a three-length-scale gradient elasticity formulation. <i>Journal of the Mechanical Behavior of Materials</i> , 2018, 27, . | 1.8 | 9 |
| 166 | On the role of the process zone in hydrogen assisted cracking ^{II} . Threshold conditions. <i>Engineering Fracture Mechanics</i> , 1988, 31, 9-18. | 4.3 | 8 |
| 167 | Stand-off positions and nonuniform distributions of misfit dislocations in heterophase systems. <i>Physica Status Solidi A</i> , 1995, 151, 281-290. | 1.7 | 8 |
| 168 | Loading rate dependence of stick-slip fracture in polymers. <i>Mechanics Research Communications</i> , 1997, 24, 115-121. | 1.8 | 8 |
| 169 | Crack growth resistance curves and stick-slip fracture instabilities. <i>Mechanics Research Communications</i> , 1997, 24, 123-130. | 1.8 | 8 |
| 170 | Behavior of screw dislocations near phase boundaries in the gradient theory of elasticity. <i>Physics of the Solid State</i> , 2000, 42, 1652-1658. | 0.6 | 8 |
| 171 | Random walk on graphs: An application to the double diffusivity model. <i>Mechanics Research Communications</i> , 2012, 43, 101-104. | 1.8 | 8 |
| 172 | Discussion of ϵ -Derivation of Mindlin's first and second strain gradient elastic theory via simple lattice and continuum models ^{by} Polyzos and Fotiadis. <i>International Journal of Solids and Structures</i> , 2020, 191-192, 646-651. | 2.7 | 8 |
| 173 | On the Structure of Single Slip and its Implications for Inelasticity. , 1986, , 283-325. | | 8 |
| 174 | Comments on the diffusion of a gas in a linear elastic solid. <i>Acta Mechanica</i> , 1980, 36, 129-133. | 2.1 | 7 |
| 175 | Instabilities during tension of thin voided viscoplastic sheets. <i>Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science</i> , 1986, 17, 1637-1640. | 1.4 | 7 |
| 176 | On the role of the process zone in hydrogen assisted cracking ^{II} . Kinetic conditions. <i>Engineering Fracture Mechanics</i> , 1988, 31, 19-25. | 4.3 | 7 |
| 177 | On the description of anisotropic plastic flow by the scale invariance approach. <i>International Journal of Plasticity</i> , 1995, 11, 183-193. | 8.8 | 7 |
| 178 | Numerical simulation of transport phenomena by using the double porosity/diffusivity continuum model. <i>Mechanics Research Communications</i> , 1996, 23, 577-582. | 1.8 | 7 |
| 179 | Screw dislocation near a triple junction of phases with different elastic moduli. I. General solution. <i>Physica Status Solidi A</i> , 1996, 153, 65-75. | 1.7 | 7 |
| 180 | Non-singular dislocation fields. <i>IOP Conference Series: Materials Science and Engineering</i> , 2009, 3, 012026. | 0.6 | 7 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 181 | Elastic fields and physical properties of surface quantum dots. <i>Physics of the Solid State</i> , 2011, 53, 2091-2102. | 0.6 | 7 |
| 182 | On certain problems of deformation-induced material instabilities. <i>International Journal of Engineering Science</i> , 2012, 59, 140-155. | 5.0 | 7 |
| 183 | A statistical study of precursor activity in earthquake-induced landslides. <i>Computers and Geotechnics</i> , 2017, 81, 137-142. | 4.7 | 7 |
| 184 | Analytical and numerical bifurcation analysis of dislocation pattern formation of the Walgraef's Aifantis model. <i>International Journal of Non-Linear Mechanics</i> , 2018, 102, 41-52. | 2.6 | 7 |
| 185 | Further remarks on an exact solution for crack problems. <i>Engineering Fracture Mechanics</i> , 1983, 18, 735-741. | 4.3 | 6 |
| 186 | Nonuniform misfit dislocation distributions in films. <i>Scripta Metallurgica Et Materialia</i> , 1994, 30, 1581-1586. | 1.0 | 6 |
| 187 | Roughening and pinning of interface cracks in shear delamination of thin films. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P11009. | 2.3 | 6 |
| 188 | Double diffusivity model under stochastic forcing. <i>Physical Review E</i> , 2017, 95, 052134. | 2.1 | 6 |
| 189 | Existence result for a dislocation based model of single crystal gradient plasticity with isotropic or linear kinematic hardening. <i>Quarterly Journal of Mechanics and Applied Mathematics</i> , 2018, 71, 99-124. | 1.3 | 6 |
| 190 | Fracture of hollow multiply-twinned particles under chemical etching. <i>European Journal of Mechanics, A/Solids</i> , 2018, 68, 133-139. | 3.7 | 6 |
| 191 | Gradient elasticity for disclinated micro crystals. <i>Mechanics Research Communications</i> , 2018, 93, 159-162. | 1.8 | 6 |
| 192 | Mechanical properties of human glioma. <i>Neurological Research</i> , 2020, 42, 1018-1026. | 1.3 | 6 |
| 193 | Atomic Force Microscope Nanoindentation Analysis of Diffuse Astrocytic Tumor Elasticity: Relation with Tumor Histopathology. <i>Cancers</i> , 2021, 13, 4539. | 3.7 | 6 |
| 194 | Towards a rational modeling for the human placenta. <i>Mathematical Biosciences</i> , 1978, 40, 281-301. | 1.9 | 5 |
| 195 | The stabilizing role of higher-order strain gradients in non-linear thermoviscoplasticity. <i>Acta Mechanica</i> , 1991, 86, 65-81. | 2.1 | 5 |
| 196 | Nonuniform misfit dislocation distributions in nanoscale thin layers. <i>Scripta Materialia</i> , 1995, 6, 771-774. | 0.5 | 5 |
| 197 | Statistical Aspects of Gradient Theory. <i>Journal of the Mechanical Behavior of Materials</i> , 2001, 12, 77-84. | 1.8 | 5 |
| 198 | Invariant relations in Boussinesq-type equations. <i>Chaos, Solitons and Fractals</i> , 2004, 22, 613-625. | 5.1 | 5 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 199 | Comments on "Model and analysis of size-stiffening in nanoporous cellular solids" by Wang and Lam [J. Mater. Sci. 44, 985-991 (2009)]. Journal of Materials Science, 2011, 46, 6158-6161. | 3.7 | 5 |
| 200 | Stochastic Dynamic Analysis of Cultural Heritage Towers up to Collapse. Buildings, 2021, 11, 296. | 3.1 | 5 |
| 201 | Comments on the calculation of the formation volume of vacancies in solids. Physical Review B, 1979, 19, 6622-6624. | 3.2 | 4 |
| 202 | Measurement of shear band characteristics in low carbon steel using photoelasticity. Scripta Metallurgica Et Materialia, 1991, 25, 2103-2108. | 1.0 | 4 |
| 203 | On the thermodynamics of higher-order gradient plasticity for size-effects at the micron and submicron length scales. International Journal of Materials and Product Technology, 2009, 34, 172. | 0.2 | 4 |
| 204 | Continuum nanomechanics for nanocrystalline and ultrafine grain materials. IOP Conference Series: Materials Science and Engineering, 2014, 63, 012129. | 0.6 | 4 |
| 205 | On temporal-structural dynamic failure criteria for rocks. Journal of the Mechanical Behavior of Materials, 2015, 24, 173-181. | 1.8 | 4 |
| 206 | Modeling the zonal disintegration of rocks near deep level tunnels by gradient internal variable continuous phase transition theory. Journal of the Mechanical Behavior of Materials, 2015, 24, 161-171. | 1.8 | 4 |
| 207 | Gradient Elasticity Effects on the Two-Phase Lithiation of LIB Anodes. Advanced Structured Materials, 2018, , 221-235. | 0.5 | 4 |
| 208 | Assessment and Fragility of Byzantine Unreinforced Masonry Towers. Infrastructures, 2021, 6, 40. | 2.8 | 4 |
| 209 | A Personal View on Current Generalized Theories of Elasticity and Plastic Flow. Advances in Mechanics and Mathematics, 2010, , 191-202. | 0.7 | 4 |
| 210 | Singular Problems in the Theory of Stress-Assisted Diffusion. SIAM Journal on Mathematical Analysis, 1983, 14, 925-933. | 1.9 | 3 |
| 211 | Hrem Study of Fracture and Deformation Behavior of Nanostructured Thin Films. Materials Research Society Symposia Proceedings, 1993, 308, 565. | 0.1 | 3 |
| 212 | An analytical gradient plasticity solution for mode III. International Journal of Fracture, 1996, 74, R75-R79. | 2.2 | 3 |
| 213 | Gradient Aspects of Crystal Plasticity at Micro and Macro Scales. Key Engineering Materials, 2000, 177-180, 805-0. | 0.4 | 3 |
| 214 | A gradient elasticity approach to the indentation size effect at very small depths. Journal of the Mechanical Behavior of Materials, 2011, 20, 35-40. | 1.8 | 3 |
| 215 | Modelling double diffusion in soils and materials. Journal of the Mechanical Behavior of Materials, 2018, 27, . | 1.8 | 3 |
| 216 | Gradient and size effects on spinodal and miscibility gaps. Continuum Mechanics and Thermodynamics, 2018, 30, 1185-1199. | 2.2 | 3 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 217 | A Note on Gradient/Fractional One-Dimensional Elasticity and Viscoelasticity. <i>Fractal and Fractional</i> , 2022, 6, 84. | 3.3 | 3 |
| 218 | Hadronization via gravitational confinement of fast neutrinos: Mechanics at fm distances. <i>ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik</i> , 2022, 102, . | 1.6 | 3 |
| 219 | Disclination Patterning under Steady-State Creep at Intermediate Temperatures. <i>Solid State Phenomena</i> , 2002, 87, 221-226. | 0.3 | 2 |
| 220 | Computer Simulation of Discrete Crack Propagation. <i>Journal of the Mechanical Behavior of Materials</i> , 2003, 14, 9-22. | 1.8 | 2 |
| 221 | On Gradient Nanomechanics: Plastic Flow in Nanopolycrystals. <i>Materials Science Forum</i> , 2010, 667-669, 991-996. | 0.3 | 2 |
| 222 | Probing the mechanical properties of dental porcelain through nanoindentation. <i>Journal of the Mechanical Behavior of Materials</i> , 2012, 21, 41-46. | 1.8 | 2 |
| 223 | Tsallis statistics and neurodegenerative disorders. <i>Journal of the Mechanical Behavior of Materials</i> , 2016, 25, 129-139. | 1.8 | 2 |
| 224 | The use of nanoindentation for determining internal lengths and the constitutive response of monument materials: models and experiments. <i>Journal of the Mechanical Behavior of Materials</i> , 2016, 25, 57-60. | 1.8 | 2 |
| 225 | Homotopy Shear Band Solutions in Gradient Plasticity. <i>Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences</i> , 2017, 72, 477-486. | 1.5 | 2 |
| 226 | Z-Box Merging: Ultra-Fast Computation of Fractal Dimension and Lacunarity. , 2017, , . | | 2 |
| 227 | On certain applications of gradient nanochemomechanics: deformation and fracture of LIB and SGS. <i>Journal of the Mechanical Behavior of Materials</i> , 2019, 28, 74-80. | 1.8 | 2 |
| 228 | Transmissibility in Interactive Nanocomposite Diffusion: The Nonlinear Double-Diffusion Model. <i>Frontiers in Applied Mathematics and Statistics</i> , 2022, 8, . | 1.3 | 2 |
| 229 | The mechanics of phase transformations. <i>Mathematical Modelling</i> , 1987, 8, 306-310. | 0.2 | 1 |
| 230 | On the problem of shear instability of a finite thermoviscoplastic slab: A gradient approach. <i>Mechanics Research Communications</i> , 1990, 17, 231-238. | 1.8 | 1 |
| 231 | Internal Variables and the Microstructural Evolution of Materials During Plastic Deformation. <i>Journal of the Mechanical Behavior of Materials</i> , 2007, 18, 55-68. | 1.8 | 1 |
| 232 | A. Konstantinidis, P. Cornetti, N. Pugno and E.C. Aifantis, Application of Gradient Theory and Quantized Fracture Mechanics in Snow Avalanches, <i>J. Mech. Behav. Mater.</i> 19, 39-47, 2009. <i>Journal of the Mechanical Behavior of Materials</i> , 2012, 20, 107-109. | 1.8 | 1 |
| 233 | A note on the discrete approach for generalized continuum models. <i>Journal of the Mechanical Behavior of Materials</i> , 2014, 23, 181-183. | 1.8 | 1 |
| 234 | Filtration model of plastic flow. <i>Journal of the Mechanical Behavior of Materials</i> , 2014, 23, 177-180. | 1.8 | 1 |

| # | ARTICLE | IF | CITATIONS |
|-----|---|-----|-----------|
| 235 | Non-Monotonous Mechanical Behavior at the Nanoscale: Elastic and Plastic Properties. Strength of Materials, 2015, 47, 642-651. | 0.5 | 1 |
| 236 | Gradient plasticity used for modeling extrinsic and intrinsic size effects in the torsion of Au microwires. Journal of the Mechanical Behavior of Materials, 2016, 25, 53-56. | 1.8 | 1 |
| 237 | Screw dislocation in a Bi-medium within strain gradient elasticity revisited. Journal of the Mechanical Behavior of Materials, 2019, 28, 68-73. | 1.8 | 1 |
| 238 | An elastoplastic axisymmetric borehole problem using a deformation theory of gradient plasticity. Geomechanics and Geoengineering, 2020, , 1-10. | 1.8 | 1 |
| 239 | GRADIENT DEPENDENT VISCOPLASTIC MODEL FOR CLAY AND NUMERICAL EXPERIMENTS BY FEM. , 1992, , 203-208. | | 1 |
| 240 | Model analogies between pattern formation in deforming engineering materials & morphogenesis in ageing human brains. Journal of the Mechanical Behavior of Materials, 2019, 28, 95-106. | 1.8 | 1 |
| 241 | Elastic Behaviour of Screw Dislocations near Triple Junctions of Interphase Boundaries. Materials Science Forum, 1996, 207-209, 605-608. | 0.3 | 0 |
| 242 | Torsional prestrain gradient and size dependence of initial yield for <100> Cu-Mn single crystals in tension. Journal of the Mechanical Behavior of Materials, 2012, 21, 95-99. | 1.8 | 0 |
| 243 | On two applications of nanomechanics to future technology. Journal of the Mechanical Behavior of Materials, 2012, 21, 47-52. | 1.8 | 0 |
| 244 | Some remarks on deformation, localization, and front propagation. Journal of the Mechanical Behavior of Materials, 2012, 21, 53-56. | 1.8 | 0 |
| 245 | Introducing time delay in the evolution of new technology: the case study of nanotechnology. Journal of the Mechanical Behavior of Materials, 2013, 22, 203-210. | 1.8 | 0 |
| 246 | A bifurcation analysis of dislocation patterning in the one-dimensional finite domain. AIP Conference Proceedings, 2015, , . | 0.4 | 0 |
| 247 | The effect of the diffusion on the bifurcation behavior of dislocation patterns in the one-dimensional finite domain. AIP Conference Proceedings, 2016, , . | 0.4 | 0 |
| 248 | Material Mechanics & Hussein Zbib: A Tribute to His Memory. Journal of Engineering Materials and Technology, Transactions of the ASME, 0, , 1-35. | 1.4 | 0 |
| 249 | Dislocation Patterns and Deformation Bands. , 1988, , 231-246. | | 0 |
| 250 | Aspects of Nonlinearity and Selforganisation in Plastic Deformation. NATO ASI Series Series B: Physics, 1990, , 239-251. | 0.2 | 0 |
| 251 | FEM Analysis of Water Saturated Soil by a Gradient Dependent Ealsto-Viscoplastic Models. , 1991, , 258-261. | | 0 |
| 252 | PATTERN FORMATION IN PLASTICITY & FRACTURE. , 1996, , 101-103. | | 0 |

| # | ARTICLE | IF | CITATIONS |
|-----|--|-----|-----------|
| 253 | Two-temperature dual-phase-lags theory in a thermoelastic solid half-space due to an inclined load. Mechanical Sciences, 2016, 7, 179-187. | 1.0 | 0 |
| 254 | Operator Splits and Multiscale Methods in Computational Dynamics. Mathematics of Planet Earth, 2019, , 239-255. | 0.1 | 0 |
| 255 | A new method for interpreting Vickers indentation measurements. Materials Today: Proceedings, 2022, , . | 1.8 | 0 |