# Ronald W Armstrong

List of Publications by Year
in descending order



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|---|---|---|---|
| 37 papers | 2,834 citations | 567281 15 h-index | 434195 31 g-index |
| 37 all docs | 37 docs citations | 37 times ranked | 2073 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Dislocationâ€mechanicsâ€based constitutive relations for material dynamics calculations. Journal of Applied Physics, 1987, 61, 1816-1825. | 2.5 | 1,624 |
| 2 | Plastic strain localization in metals: origins and consequences. Progress in Materials Science, 2014, 59, 1-160. | 32.8 | 340 |
| 3 | 60 Years of Hall-Petch: Past to Present Nano-Scale Connections. Materials Transactions, 2014, 55, 2-12. | 1.2 | 180 |
| 4 | Description of tantalum deformation behavior by dislocation mechanics based constitutive relations. Journal of Applied Physics, 1990, 68, 1580-1591. | 2.5 | 157 |
| 5 | Dislocation mechanics of copper and iron in high rate deformation tests. Journal of Applied Physics, 2009, 105, . | 2.5 | 90 |
| 6 | Engineering science aspects of the Hallâ€"Petch relation. Acta Mechanica, 2014, 225, 1013-1028. | 2.1 | 72 |
| 7 | The Hardness and Strength Properties of WC-Co Composites. Materials, 2011, 4, 1287-1308. | 2.9 | 64 |
| 8 | Dislocation Mechanics of High-Rate Deformations. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 4438-4453. | 2.2 | 45 |
| 9 | Hall-Petch analysis of dislocation pileups in thin material layers and in nanopolycrystals. Journal of Materials Research, 2013, 28, 1792-1798. | 2.6 | 28 |
| 10 | Dislocation Pile-Ups, Material Strength Levels, and Thermal Activation. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5801-5810. | 2.2 | 24 |
| 11 | Indentation fracture mechanics toughness dependence on grain size and crack size: Application to alumina and WCâ€"Co. International Journal of Refractory Metals and Hard Materials, 2006, 24, 129-134. | 3.8 | 23 |
| 12 | Dislocation pile-ups: From {110} cracking in MgO to model strength evaluations. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 409, 24-31. | 5.6 | 22 |
| 13 | Material grain size and crack size influences on cleavage fracturing. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140124. | 3.4 | 19 |
| 14 | Size effects on material yield strength/deformation/fracturing properties. Journal of Materials Research, 2019, 34, 2161-2176. | 2.6 | 19 |
| 15 | Elastic/plastic/cracking indentation behavior of hard materials. International Journal of Refractory Metals and Hard Materials, 2006, 24, 11-16. | 3.8 | 15 |
| 16 | Elastic/plastic deformation behavior in a continuous ball indentation test. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 371, 251-255. | 5.6 | 14 |
| 17 | Crystal Engineering for Mechanical Strength at Nano-Scale Dimensions. Crystals, 2017, 7, 315. | 2.2 | 13 |
| 18 | Hall-Petch Basis for Assessing Alloy Strengthening. Materials Research Society Symposia Proceedings, 1994, 362, 41. | 0.1 | 11 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Constitutive relations for slip and twinning in high rate deformations: A review and update. Journal of Applied Physics, 2021, 130, . | 2.5 | 11 |
| 20 | Hall-Petch Analysis of Yield, Flow and Fracturing. Materials Research Society Symposia Proceedings, 1994, 362, 9. | 0.1 | 9 |
| 21 | Exceptional crystal strain hardening determined over macro- to micro- to nano-size scales in continuous spherical indentation tests. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 757, 95-100. | 5.6 | 8 |
| 22 | Influence of the strain rate on deformation mechanisms of an AZ31 magnesium alloy. International Journal of Materials Research, 2013, 104, 762-768. | 0.3 | 7 |
| 23 | Bertram Hopkinson's pioneering work and the dislocation mechanics of high rate deformations and mechanically induced detonations. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2014, 372, 20130181. | 3.4 | 7 |
| 24 | Crystal Indentation Hardness. Crystals, 2017, 7, 21. | 2.2 | 7 |
| 25 | Dislocation Mechanics Pile-Up and Thermal Activation Roles in Metal Plasticity and Fracturing. Metals, 2019, 9, 154. | 2.3 | 6 |
| 26 | Dislocation Reaction Mechanism for Enhanced Strain Hardening in Crystal Nano-Indentations. Crystals, 2020, 10, 9. | 2.2 | 6 |
| 27 | Symmetry Aspects of Dislocation-Effected Crystal Properties: Material Strength Levels and X-ray Topographic Imaging. Symmetry, 2014, 6, 148-163. | 2.2 | 4 |
| 28 | Crystal Strengths at Micro- and Nano-Scale Dimensions. Crystals, 2020, 10, 88. | 2.2 | 3 |
| 29 | LM-ACT for Imaging RAM Devices in X-ray Diffraction Topographs. Advances in X-ray Analysis, 1988, 32, 659-666. | 0.0 | 2 |
| 30 | High-Rate Crystal/Polycrystal Dislocation Dynamics. Crystals, 2022, 12, 705. | 2.2 | 2 |
| 31 | Crystal Dislocations. Crystals, 2016, 6, 9. | 2.2 | 1 |
| 32 | Hallâ€“Petch Relationship in Aluminum and Aluminum Alloys. , 2019, , . |  | 1 |
| 33 | Norman J. Petch and his Contributions to Materials Science. Materials Research Society Symposia Proceedings, 1994, 362, 3. | 0.1 | 0 |
| 34 | Split-Hopkinson pressure bar tests on pure tantalum. , 1998, , . |  | 0 |
| 35 | Application of Eyringâ€™s thermal activation theory to constitutive equations for polymers. AIP Conference Proceedings, 2000, , . | 0.4 | 0 |
| 36 | Dislocation characteristics in energetic crystals. AIP Conference Proceedings, 2000, , . | 0.4 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | DISLOCATION MECHANICS UNDER EXTREME PRESSURES. , 2008, , . | | 0 |