# Ignacio Romero

List of Publications by Year
in descending order

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|---|---|---|---|
| 61<br>papers | 1,365<br>citations | 471371<br>17<br>h-index | 345118<br>36<br>g-index |
| 63<br>all docs | 63<br>docs citations | 63<br>times ranked | 701<br>citing authors |

| # | Article | IF | Citations |
|---|---------|-----|-----------|
| 1 | An objective finite element approximation of the kinematics of geometrically exact rods and its use in the formulation of an energy-momentum conserving scheme in dynamics. International Journal for Numerical Methods in Engineering, 2002, 54, 1683-1716. | 1.5 | 176 |
| 2 | The interpolation of rotations and its application to finite element models of geometrically exact rods. Computational Mechanics, 2004, 34, 121. | 2.2 | 129 |
| 3 | On the formulation of high-frequency dissipative time-stepping algorithms for nonlinear dynamics. Part I: low-order methods for two model problems and nonlinear elastodynamics. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 2603-2649. | 3.4 | 112 |
| 4 | On the formulation of high-frequency dissipative time-stepping algorithms for nonlinear dynamics. Part II: second-order methods. Computer Methods in Applied Mechanics and Engineering, 2001, 190, 6783-6824. | 3.4 | 108 |
| 5 | A comparison of finite elements for nonlinear beams: theÂabsolute nodal coordinate and geometrically exact formulations. Multibody System Dynamics, 2008, 20, 51-68. | 1.7 | 96 |
| 6 | Thermodynamically consistent timeâ€stepping algorithms for nonâ€linear thermomechanical systems. International Journal for Numerical Methods in Engineering, 2009, 79, 706-732. | 1.5 | 95 |
| 7 | Algorithms for coupled problems that preserve symmetries and the laws of thermodynamics. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1841-1858. | 3.4 | 55 |
| 8 | HotQC simulation of nanovoid growth under tension in copper. International Journal of Fracture, 2012, 174, 75-85. | 1.1 | 41 |
| 9 | An analysis of the stress formula for energy-momentum methods in nonlinear elastodynamics. Computational Mechanics, 2012, 50, 603-610. | 2.2 | 39 |
| 10 | Atomistic long-term simulation of heat and mass transport. Journal of the Mechanics and Physics of Solids, 2014, 73, 242-268. | 2.3 | 39 |
| 11 | Numerical integration of the stiff dynamics of geometrically exact shells: an energy-dissipative momentum-conserving scheme. International Journal for Numerical Methods in Engineering, 2002, 54, 1043-1086. | 1.5 | 36 |
| 12 | Energy-dissipative momentum-conserving time-stepping algorithms for the dynamics of nonlinear Cosserat rods. Computational Mechanics, 2003, 31, 3-26. | 2.2 | 35 |
| 13 | Development of a thermo-mechanically coupled crystal plasticity modeling framework: Application to polycrystalline homogenization. International Journal of Plasticity, 2019, 119, 313-330. | 4.1 | 31 |
| 14 | Algorithms for coupled problems that preserve symmetries and the laws of thermodynamics. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 2235-2248. | 3.4 | 29 |
| 15 | A generalization of the method of incompatible modes. International Journal for Numerical Methods in Engineering, 2007, 69, 1851-1868. | 1.5 | 22 |
| 16 | Multiscale simulation of powder-bed fusion processing of metallic alloys. Computational Materials Science, 2022, 209, 111383. | 1.4 | 22 |
| 17 | Energy-Entropy-Momentum integration of discrete thermo-visco-elastic dynamics. European Journal of Mechanics, A/Solids, 2012, 32, 76-87. | 2.1 | 18 |
| 18 | Energyâ€"entropyâ€"momentum integration schemes for general discrete nonâ€smooth dissipative problems in thermomechanics. International Journal for Numerical Methods in Engineering, 2017, 112, 776-802. | 1.5 | 17 |

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|---|---------|-----|-----------|
| 19 | Computational issues in the simulation of two-dimensional discrete dislocation mechanics. Modelling and Simulation in Materials Science and Engineering, 2007, 15, S361-S375. | 0.8 | 16 |
| 20 | A thermodynamically consistent numerical method for a phase field model of solidification. Communications in Nonlinear Science and Numerical Simulation, 2014, 19, 2309-2323. | 1.7 | 16 |
| 21 | Incompatible Bubbles: A non-conforming finite element formulation for linear elasticity. Computer Methods in Applied Mechanics and Engineering, 2007, 196, 1662-1672. | 3.4 | 15 |
| 22 | A stable Xâ€FEM in cohesive transition from closed to open crack. International Journal for Numerical Methods in Engineering, 2015, 101, 540-570. | 1.5 | 14 |
| 23 | Formulation and performance of variational integrators for rotating bodies. Computational Mechanics, 2008, 42, 825-836. | 2.2 | 12 |
| 24 | Energy-consistent time integration for nonlinear viscoelasticity. Computational Mechanics, 2014, 54, 473-488. | 2.2 | 11 |
| 25 | A new conservative/dissipative time integration scheme for nonlinear mechanical systems. Computational Mechanics, 2020, 65, 405-427. | 2.2 | 11 |
| 26 | On the stability and convergence of fully discrete solutions in linear elastodynamics. Computer Methods in Applied Mechanics and Engineering, 2002, 191, 3857-3882. | 3.4 | 10 |
| 27 | A methodology for the formulation of error estimators for time integration in linear solid and structural dynamics. International Journal for Numerical Methods in Engineering, 2006, 66, 635-660. | 1.5 | 10 |
| 28 | A torsion-free non-linear beam model. International Journal of Non-Linear Mechanics, 2014, 58, 1-10. | 1.4 | 10 |
| 29 | Multiscale modeling of defect formation during solid-phase epitaxy regrowth of silicon. Acta Materialia, 2015, 82, 115-122. | 3.8 | 10 |
| 30 | MUESLI - a Material UnivErSal LIbrary. Advances in Engineering Software, 2017, 105, 1-8. | 1.8 | 10 |
| 31 | Variational principles for nonlinear Kirchhoff rods. Acta Mechanica, 2020, 231, 625-647. | 1.1 | 10 |
| 32 | Dislocation dynamics in non-convex domains using finite elements with embedded discontinuities. Modelling and Simulation in Materials Science and Engineering, 2008, 16, 035008. | 0.8 | 10 |
| 33 | B free. Computer Methods in Applied Mechanics and Engineering, 2012, 217-220, 226-235. | 3.4 | 9 |
| 34 | A Characterization of Conserved Quantities in Non-Equilibrium Thermodynamics. Entropy, 2013, 15, 5580-5596. | 1.1 | 8 |
| 35 | Stability analysis of linear multistep methods for classical elastodynamics. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 2169-2189. | 3.4 | 7 |
| 36 | Error estimation for the HHT method in non-linear solid dynamics. Computers and Structures, 2007, 85, 158-169. | 2.4 | 6 |

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|---|---------|-----|-----------|
| 37 | A simple method to impose rotations and concentrated moments on ANC beams. Multibody System Dynamics, 2009, 21, 307-323. | 1.7 | 6 |
| 38 | A numerical method for the time coarsening of transport processes at the atomistic scale. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 045011. | 0.8 | 6 |
| 39 | A Methodology for the Statistical Calibration of Complex Constitutive Material Models: Application to Temperature-Dependent Elasto-Visco-Plastic Materials. Materials, 2020, 13, 4402. | 1.3 | 6 |
| 40 | Coupling nonlinear beams and continua: Variational principles and finite element approximations. International Journal for Numerical Methods in Engineering, 2018, 114, 1192-1212. | 1.5 | 5 |
| 41 | Structural models based on 3D constitutive laws: Variational structure and numerical solution. Computer Methods in Applied Mechanics and Engineering, 2020, 362, 112872. | 3.4 | 5 |
| 42 | Variational updates for general thermo–chemo–mechanical processes of inelastic solids. Computer Methods in Applied Mechanics and Engineering, 2021, 385, 114013. | 3.4 | 5 |
| 43 | Analysis of error estimators for the semidiscrete equations of linear solid and structural dynamics. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 2674-2696. | 3.4 | 4 |
| 44 | A new approach for the solution of the neighborhood problem in meshfree methods. Engineering With Computers, 2017, 33, 239-247. | 3.5 | 4 |
| 45 | Energy-momentum conserving integration schemes for molecular dynamics. Computational Mechanics, 2021, 67, 915-935. | 2.2 | 4 |
| 46 | Influence of cerebral blood vessel movements on the position of perivascular synapses. PLoS ONE, 2017, 12, e0172368. | 1.1 | 4 |
| 47 | Finite Temperature Nanovoids Evolution in FCC Metals Using Quasicontinuum Method. Key Engineering Materials, 0, 488-489, 387-390. | 0.4 | 3 |
| 48 | A sample-based approach to estimate the dynamic loads of components with nonlinear uncertain interfaces. Aerospace Science and Technology, 2019, 87, 369-378. | 2.5 | 3 |
| 49 | Anisotropic meta–models for computationally expensive simulations in nonlinear mechanics. International Journal for Numerical Methods in Engineering, 2020, 121, 904-924. | 1.5 | 3 |
| 50 | On a nonlinear rod exhibiting only axial and bending deformations: mathematical modeling and numerical implementation. Acta Mechanica, 2021, 232, 3825-3847. | 1.1 | 3 |
| 51 | Variational Integrators for Thermo–Viscoelastic Discrete Systems. Proceedings in Applied Mathematics and Mechanics, 2015, 15, 55-56. | 0.2 | 1 |
| 52 | Formulation and numerical solution of non-smooth elasto-visco-plasticity models. Computer Methods in Applied Mechanics and Engineering, 2017, 324, 457-475. | 3.4 | 1 |
| 53 | A robust asymmetrical contact algorithm for explicit solid dynamics. Computational Mechanics, 2019, 64, 15-32. | 2.2 | 1 |
| 54 | The Rotating Rigid Body Model Based on a Non-twisting Frame. Journal of Nonlinear Science, 2020, 30, 3199-3233. | 1.0 | 1 |

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|---|---------|----|-----------|
| 55 | Dimensionally reduced nonlinear solids with general loads and constitutive laws: Theory and finite element formulation for rod-like bodies. International Journal of Solids and Structures, 2021, 210-211, 273-288. | 1.3 | 1 |
| 56 | Modeling and Simulations of the Dynamics of Growing Cell Clusters. , 2011, , 1-25. | | 1 |
| 57 | High Frequency Dissipative Integration Schemes for Linear and Nonlinear Elastodynamics. CISM International Centre for Mechanical Sciences, Courses and Lectures, 2016, , 1-30. | 0.3 | 0 |
| 58 | A generalization of Castigliano's theorems for structures with eigenstrains. Archive of Applied Mechanics, 2017, 87, 1727-1737. | 1.2 | 0 |
| 59 | Performance Assessment of Variational Integrators for Thermomechanical Problems. Journal of Theoretical and Applied Mechanics (Bulgaria), 2018, 48, 3-23. | 0.6 | 0 |
| 60 | Strategy and algorithms for the parallel solution of the nearest neighborhood problem in shared-memory processors. Engineering With Computers, 0, , 1. | 3.5 | 0 |
| 61 | A data-driven method for dissipative thermomechanics. IFAC-PapersOnLine, 2021, 54, 315-320. | 0.5 | 0 |