

Carlos Heredia

Publications

- 2026 Heredia, Carlos and Josep Llosa (July 2026). “Nonlocal mechanics”. In: *Journal of Physics A: Mathematical and Theoretical* 59.29, p. 295207. DOI: 10.1088/1751-8121/ae8b5e. URL: <https://doi.org/10.1088/1751-8121/ae8b5e>.
- Heredia, Carlos and Daniel Roncel (Oct. 2026). “Integrable Elasticity via Neural Demand Potentials”. In: *Expert Systems with Applications*, p. 134600. ISSN: 0957-4174. DOI: 10.1016/j.eswa.2026.134600.
- 2024 Heredia, Carlos and Josep Llosa (May 2024a). “Infinite derivatives vs integral operators. The Moeller-Zwiebach puzzle”. In: *Journal of Physics A: Mathematical and Theoretical* 57.23, p. 235202. DOI: 10.1088/1751-8121/ad4aa5.
- Heredia, Carlos and Josep Llosa (Apr. 2024b). “Nonlocal Lagrangian fields and the second Noether theorem. Non-commutative U(1) gauge theory”. In: *Journal of High Energy Physics* 2024.4, p. 21. DOI: 10.1007/JHEP04(2024)021.
- 2023 Salvat, Francesc and Carlos Heredia (Nov. 2023). “Electromagnetic interaction models for Monte Carlo simulation of protons and alpha particles”. In: *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms* 546, p. 165157. DOI: <https://doi.org/10.1016/j.nimb.2023.165157>.
- 2022 Heredia, Carlos, Ivan Kolář, et al. (Mar. 2022). “Infinite-derivative linearized gravity in convolutional form”. In: *Classical and Quantum Gravity* 39.8, p. 085001. DOI: 10.1088/1361-6382/ac5a14.
- Heredia, Carlos and Josep Llosa (June 2022). “Nonlocal Lagrangian fields: Noether’s theorem and Hamiltonian formalism”. In: *Phys. Rev. D* 105, p. 126002. DOI: 10.1103/PhysRevD.105.126002.
- 2021 Heredia, Carlos and Josep Llosa (May 2021a). “Energy-momentum tensor for the electromagnetic field in a dispersive medium”. In: *Journal of Physics Communications* 5.5, p. 055003. DOI: 10.1088/2399-6528/abfd14.

Heredia, Carlos and Josep Llosa (Sept. 2021b). “Non-local Lagrangian mechanics: Noether’s theorem and Hamiltonian formalism”. In: *Journal of Physics A: Mathematical and Theoretical* 54.42, p. 425202. DOI: 10.1088/1751-8121/ac265c.