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On the Cover
Schematic illustration of trapped ^{6}He and ^{7}He atoms, depicting the use of laser spectroscopy for probing the difference in their nuclear charge radii.
Credit: Shuhei Ito
Spectroscopy of ^{6,7}He at 0.25 ppt Uncertainty and Improved Alpha-Helion Charge Radius Difference Determination
Shuhei Ito, Yoshiki Tsunoda, Masaki Asai, Masaharu Hori, Akira Sato, and K. T. E. Olsen
Phys. Rev. Lett. 136, 243001 (2026)

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Condensed Matter and Materials | Quantum Information, Science, and Technology

Quantum Mechanics Based on Real Numbers: A Consistent Description
Pedro Bacchus Alba, Arturo Tozzetti-Pé, Hernando Quevedo, Michael Esposito, and Enrique Wolf
Phys. Rev. Lett. 136, 240201 (2026) - Published 15 June, 2026

By exploiting a physically motivated principle, rather than a mathematical postulate, researchers offer a new perspective on how a real-valued quantum theory can be constructed.

Particles and Fields | Nuclear Physics | Atomic, Molecular, and Optical Physics

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Memory-Assisted Nonlocal Interferometer toward Long-Baseline Telescopes
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Phys. Rev. Lett. 136, 248001 (2026) - Published 15 June, 2026

A memory-assisted nonlocal optical interferometer leverages delocalized single photons entanglement to extend baselines up to 20 km and computational gain.

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