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Correspondence between Modified Gravity and Generalized Uncertainty Principle

Thursday 10 July 2025 09:20 (20 minutes)

I will briefly examine the connection between modified theories of gravity and models based on the Generalized Uncertainty Principle (GUP). This relationship provides a framework for testing gravity proposals using tabletop experiments. Using the Landau model of liquid helium as a representative example, we will analyze the underlying details. Similarly, GUP models can be reformulated in terms of modifications to the Poisson equation, allowing their analysis through planetary seismic data.

Working Group

WG5 - Connection between low-energy and high-energy quantum gravity

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Session Classification: WG5 Connection between low-energy and high-energy quantum gravity 2