

A novel mechanism to probe Planck scale effects using wave-packet expansion experiments

Approaches to Quantum Gravity (QG) often propose a fundamental minimal length scale in Nature irrespective of our measurement precision. This scale is believed to be at or near the Planck length (10^{-35} m), which also makes it unlikely to be probed directly. In this talk, we put forward a mechanism, recently developed by us, which propose an indirect probe to measure some effects of the minimal length scale on the low energy physics. We shall show that the time resolved wave-packet expansion experiments are one of the best mechanisms available to experimentally verify the existence of such a length scale and thus could be useful for obtaining vital clues on QG.

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