Dark Sector Spectroscopy at Neutrino Telescopes with Quantum-Gravitational Decoherence

Wednesday 22 September 2021 17:30 (15 minutes)

We discuss the interplay of wave package decoherence and decoherence induced by quantum gravity via interactions with spacetime foam for high energy astrophysical neutrinos. In this context we point out a compelling consequence of the expectation that quantum gravity should break global symmetries, namely that quantum-gravity induced decoherence can provide both a powerful tool for the search for new particles, including totally decoupled backgrounds interacting only gravitationally, and at the same time a window into the intricacies of black hole information processing.

Do you wish to attend the workshop on-site?

no

Summary

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