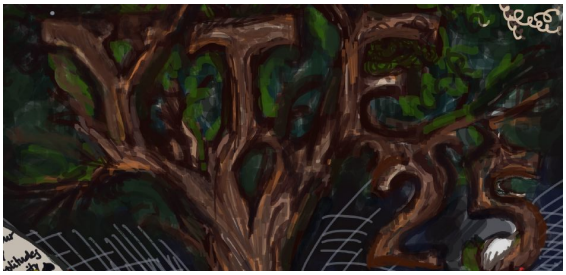

Contribution ID: **87** Type: **not specified**

Quantum Corrections to Symmetron Fifth Forces

Thursday 18 December 2025 11:00 (30 minutes)

Non-linear scalar-tensor theories of modified gravity may explain observations attributed to dark matter and dark energy. Much is understood of their classical properties, but their quantum nature is relatively unexplored. We discuss a Green's function method for obtaining the leading order quantum corrections to the classical symmetron field in the vicinity of a spherically symmetric extended source. Our calculations indicate that leading-order quantum corrections can dramatically weaken the fifth force mediated by the symmetron field.

Author: UDEMBA, Michael (University of Manchester)

Presenter: UDEMBA, Michael (University of Manchester)

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