

First-Order Quantum Corrections to Fifth Forces

Monday 7 April 2025 16:15 (15 minutes)

Non-linear scalar-tensor theories of modified gravity have been considered as candidates for dark matter and dark energy. Often, they possess screening mechanisms which allow them to evade detection from local experiments. Much is understood of their classical behaviour, 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.

Author: UDEMBA, Michael (University of Manchester)

Co-author: MILLINGTON, Peter (University of Manchester)

Presenter: UDEMBA, Michael (University of Manchester)

Session Classification: Beyond the Standard Model

Track Classification: Beyond the Standard Model