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Low Energy Dark Sector Searches at ATI

Despite intense efforts to understand its nature, the dark sector proves elusive. Rising tensions in observational data with Λ -CDM add to long-standing problems that clearly indicate that the present standard model/GR picture of our universe is incomplete.

As the landscape of candidate theories is vast, one possible approach is to search for easily classifiable effective low-energy manifestations of higher energy theories. Kostelecky's standard model extension and the 16 potentials of Moody and Wilczek provide a suitable framework for that.

At ATI, we use two entirely different experiments - Cannex and qBounce - to search for various terms in this framework that each correspond to a different type of 'fifth' force. This talk gives an overview of the status and prospects of both experiments, and their possible contributions in the search for the nature of the dark sector.

Primary author: SEDMIK, Rene (TU Wien)

Presenter: SEDMIK, Rene (TU Wien)