

EXCESSES in low-mass dark matter and CEvNS experiments

Friday 31 March 2023 14:45 (15 minutes)

In recent years, direct dark matter detection experiments extended the hunt for dark matter to masses well below 1 GeV, driven by lowering their thresholds to the scale of few eV. However, with the lower thresholds, the experiments started to observe events above the expected background level. Numerous low-threshold experiments observe suchlike EXCESSES of events, a common feature of the EXCESSES is a steep rise toward low energy. The EXCESSES currently are the main limiting factor for affected low-mass dark matter searches and upcoming CEvNS experiments. To pin down the origin of the EXCESSES, the community exchanged their experimental evidence and expertise in three EXCESS workshops in the last two years. In this contribution, we will report on the significant insights gained on the excess and discuss remaining open questions and further prospects of (the) EXCESS(ES).

Author: REINDL, Florian (Vienna University of Technology (AT))

Presenter: REINDL, Florian (Vienna University of Technology (AT))

Session Classification: SESSION 12: Direct Detection: status of sub-GeV DM detection (CHAIR: Maria Martinez - IUCA - Universidad de Zaragoza)