

Astrophysical and Cosmological aspects of Dark Photons

Friday, 18 December 2015 10:00 (1h 30m)

This talk will highlight astrophysical and cosmological implications of dark photons in the keV - MeV mass bracket. A kinetically mixed vector particle with mass below the electron mass is a viable candidate for dark matter. I will show how direct detection experiments are probing to this “superWIMP” scenario, and present competing astrophysical constraints. In a second part, I will focus on the framework of primordial nucleosynthesis and show how it puts new physics in the MeV mass range to the test. In addition to dark photons, I will also present a new solution to the cosmological lithium problem that is based on ALPs and that is also testable in intensity frontier experiments.

Presenter: PRADLER, Josef (Vienna OAW)