

Contribution ID: 10

Type: not specified

Search for dark photon DM in 6-8 eV energy range with URIDA Experiment.

Thursday, 6 July 2023 11:55 (20 minutes)

The dark photon emerges as an additional gauge boson in a U(1) Standard Model extension and is coupled to the ordinary photon via kinetic mixing. To investigate the energy band from 6-8 eV, where photons are highly absorbent due to molecular oxygen with an absorption length on the order of cm at atmospheric pressure, we developed the Ultraviolet Range Initiated photons from Dark-photons in Ambient (URIDA) Experiment, motivated by other work. In order to minimize attenuation, the detection system was housed in a vacuum chamber. We constructed our detector system using low dark rate photo-multipliers that are sensitive at these energies and included an aluminum reflector similar to the FUNK experiment to enhance collection. Results on performance and preliminary sensitivity will be reported.

Primary author: KRYEMADHI, Abaz (Messiah University)

Co-authors: Dr HELLGREN, Niklas (Messiah University); Mr HUANG, Kyle (Messiah University); Ms NEAL, Sam (Messiah University)

Presenter: KRYEMADHI, Abaz (Messiah University)

Session Classification: Thursday Session 2