



Contribution ID: 133

Type: poster

## Dark boson search on accelerators and in astrophysics

*Tuesday, 24 September 2024 21:02 (1 minute)*

This presentation is dedicated to my most recent results in the dark sector phenomenology. The anomalous nuclear decays observed at ATOMKI, Hungary lead to the existence of a dark vector meson. It is shown that the mass of the dark meson should be around 17 MeV and the interaction constant  $\sim 10^{-4}e$ . Those parameters cannot introduce the required correction to the muon magnetic moment. We present a model based on tensor interactions with vector mesons which has the capability of explaining both effects. We show that the suggested mesons are detectable on PADME at LNF. The Lagrangian is then extended to include also a pseudo-scalar particle (ALP) and effects on the equation of state of a neutron star are derived.

**Primary author:** NAYDENOV, Momchil (Sofia University "St. Kliment Ohridski")

**Presenter:** NAYDENOV, Momchil (Sofia University "St. Kliment Ohridski")

**Session Classification:** Poster Session