



Contribution ID: 85

Type: **Regular plenary talk**

White dwarf cooling through neutrinos and $L_\mu - L_\tau$

Friday, 21 February 2025 09:15 (15 minutes)

Hot white dwarfs lose energy mainly in the form of neutrinos through plasmon decay from the inner part of the star. BSM physics can have visible contributions to the cooling of these compact objects. The aim of this study is to show how hot white dwarf cooling could be altered by a dark photon from the $L_\mu - L_\tau$ model and explore these effects from ultra-light to heavy intermediators. This leads to very interesting constraints to this BSM model.

Primary authors: HOEFKEN ZINK, Jaime (Narodowe Centrum Badań Jądrowych (NCBJ)); Dr FOLDENAUER, Patrick (IFT Madrid)

Presenter: HOEFKEN ZINK, Jaime (Narodowe Centrum Badań Jądrowych (NCBJ))

Session Classification: Neutrino Astrophysics

Track Classification: Neutrino Astrophysics