

Whispers from the Dark Universe - Particles & Fields in the Gravitational Wave Era

CLUSTER OF EXCELLENCE
QUANTUM UNIVERSE

DESY THEORY WORKSHOP

WHISPERS FROM THE DARK UNIVERSE - PARTICLES & FIELDS IN THE GRAVITATIONAL WAVE ERA

HELMHOLTZ

24 - 27 September 2024 DESY Hamburg, Germany



Contribution ID: 47

Type: **not specified**

Ruling out $g-2$ in $L_\mu - L_\tau$ with White Dwarf Cooling

Wednesday 25 September 2024 14:00 (15 minutes)

In this talk, I will present the first *ab initio* computation of white dwarf (WD) cooling due to plasmon decay in a model of gauged $U(1)_{L_\mu - L_\tau}$. In particular, I will present the full result taking into account resonance effects of the A' mass with the WD plasma frequencies.

I will show how current observations of the neutrino luminosity function of early-stage WDs exclude previously allowed regions of the parameter space favoured by a simultaneous explanation of the $(g-2)_\mu$ and H_0 anomalies.

Primary author: FOLDENAUER, Patrick (IFT UAM-CSIC Madrid)

Presenter: FOLDENAUER, Patrick (IFT UAM-CSIC Madrid)

Session Classification: Parallel Wednesday Pheno 2

Track Classification: Particle Phenomenology