



# INVITATION

as part of the Particle Physics Seminar

to the talk by

**Mathias GARNY**

(TUM Munich)

on

***“Probing interacting dark sectors with cosmology”***

**Abstract:**

The absence of signals for WIMPs motivates an exploration of cosmological probes of the properties and identity of dark matter. Current and future CMB and large-scale structure surveys allow us to explore interacting dark sectors via precision measurements sensitive to structure formation on various length and time scales. In this talk we explore the possibility that the dark sector is only very weakly coupled to the Standard Model, but that its internal properties are governed by similar fundamental principles, specifically a (dark) non-Abelian gauge interaction. We show that this scenario can be tested in multiple ways via the impact of dark sector interactions on structure formation, and could also address open questions such as the Hubble tension. Finally, we sketch the production of this type of dark matter by freeze-in and point out some peculiar features of the internal dark sector dynamics in the Early Universe related to the formation of bound states.

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**Time: Tuesday, 21 January 2025, 4:15 p.m.**

**Location: Erwin-Schrödinger Lecture Hall, 1090 Vienna, Boltzmannngasse 5, 5<sup>th</sup> floor**

Join Zoom Meeting - Meeting ID: 933 4269 3866 Passcode: 185096  
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