



Contribution ID: 329

Type: **Talk**

【341】 DARWIN - a next-generation observatory for dark matter and neutrino physics

Wednesday 1 September 2021 15:15 (30 minutes)

Two open questions in physics are the nature of dark matter and the fundamental nature of neutrinos. DARWIN is a next-generation experiment aiming to reach a dark matter sensitivity limited by the cosmic neutrino background. The core of the detector will be a TPC with 40 t of liquid xenon as dark matter target. The large xenon mass, the ultra-low radioactive background and the low energy threshold will allow for a diversification of the physics programme beyond the search for dark matter particles: DARWIN will be a true low-background, low-threshold astroparticle physics observatory. I will present the status of the project, its science reach, and discuss the main R&D topics.

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Session Classification: Nuclear, Particle- & Astrophysics

Track Classification: Nuclear, Particle- and Astrophysics (FAKT - TASK)