Contribution ID: **154** Type: **not specified**

Mapping the parameter space of low-scale leptogenesis

Tuesday 26 July 2022 14:00 (18 minutes)

The origins of the light neutrino masses, and the baryon asymmetry of the Universe remain some of the biggest open questions of particle physics. By extending the standard model with Majorana neutrinos, the light neutrino masses can be generated through the type-I seesaw mechanism, and the baryon asymmetry of the Universe through leptogenesis. We study low-scale leptogenesis with Majorana neutrino masses between the MeV and TeV scales, covering the entire experimentally accessible mass range. I will talk about the two realizations of this mechanism - leptogenesis via neutrino oscillations and resonant leptogenesis, and demonstrate that their parameter space is united. We find that leptogenesis is viable in a wide range of parameters, including active-sterile mixing angles large enough to be testable at planned intensity experiments or future colliders (in the minimal scenario with two sterile neutrinos), or even exceeding the existing experimental bounds (in the scenario with three sterile neutrinos).

Author: KLARIC, Juraj (Universite Catholique de Louvain (UCL) (BE))

Presenter: KLARIC, Juraj (Universite Catholique de Louvain (UCL) (BE))

Session Classification: Parallel Session C