

Tetsuo Shindou "Low-scale leptogenesis and dark matter in a three-loop radiative seesaw model"

Wednesday, 8 November 2023 11:15 (25 minutes)

We show that three open questions in particle physics and cosmology: the origin of neutrino mass, the identity of dark matter, and the origin of the baryon asymmetry of the universe can be explained simultaneously in the three-loop seesaw model proposed by Krauss, Nasri, and Trodden. We discuss the difficulty of successful leptogenesis with three right-handed neutrinos, and we propose a scenario with four right-handed neutrinos that satisfies all observational constraints. This scenario predicts a sleptonlike particle as light as a few hundreds GeV that can be probed by future collider experiments. This talk is based on the paper by O. Seto, T. Shindou, and T. Tsuyuki, Phys. Rev. D 108, 055002.

Session Classification: Short talks