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Majoron Dark Matter and Neutrino Masses In The Type 1 Seesaw Mechanism

Wednesday, 7 October 2020 14:00 (25 minutes)

In this talk we introduce the neutrino mass problem of the Standard Model of particle physics. Then, we analyze how to generate these masses by introducing right-handed Majorana singlets in the type 1 Seesaw mechanism framework. Afterwards, we explain the origin of these masses through the spontaneous symmetry breaking of a global $U(1)$ symmetry, which introduces a new scalar singlet with a massive Goldstone mode, referred to as the Majoron. We conclude the talk by showing some preliminary results on Majoron production at the LHC in two specific channels.

Primary authors: ARDILA, Gustavo (Universität Heidelberg); FLOREZ BUSTOS, Carlos Andres (Universidad de los Andes (CO))

Co-authors: Mr RODEJOHANN, Werner (Max Planck Institut für Kernphysik); Ms CARDONA CAÑAVERAL, Nathalia (Universidad de los Andes); Mr VERGARA DURAN, Nicolas (Universidad de los Andes)

Presenter: ARDILA, Gustavo (Universität Heidelberg)

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