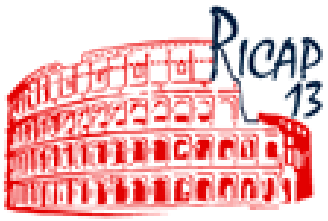

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Cosmological and astrophysical constraints on majoron dark matter

Wednesday, 22 May 2013 15:40 (20 minutes)

In my talk I will explore the possibility that the dark matter is related to the origin of neutrino masses. In fact, neutrino masses could arise from spontaneous breaking of ungauged lepton number and the resulting Goldstone boson, the majoron, may pick up a mass due to gravity and play the role of dark matter. I will first examine the cosmological constraints on the majoron density and lifetime. Then I will show the X- and gamma-ray constraints on the (subdominant) majoron decay to photons. Finally, I will compare these observational constraints to the predictions of different realizations of a general majoron see-saw model.

Primary author: Dr LATTANZI, Massimiliano (Università di Ferrara)

Co-authors: Prof. VALLE, José (Instituto de Física Corpuscular - CSIC/Univ. de Valencia); Dr TÓRTOLA, Mariam (Instituto de Física Corpuscular - CSIC/Univ. de Valencia); Dr RIEMER-SORENSEN, Signe (University of Queensland, Brisbane)

Presenter: Dr LATTANZI, Massimiliano (Università di Ferrara)

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