

Cosmic neutrinos and other relics: what remains to be learnt?

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Cosmology has pioneered the investigation of neutrino properties and the discovery of yet-to-be-observed particles. Cosmological data point to the standard picture of three active, very light, weakly interacting neutrino families, and provide the tightest constraint to-date on the mass sum, complementary to laboratory avenues. The presence of additional light relic particles is also severely limited. Upcoming surveys promise to provide the first ever measurement of non/zero neutrino mass scale and rule out the existence of BSM thermal relics. Will we trust these results? In this talk, we will review the state of the art, discuss future prospects and reason about what cosmological analyses must do to convince the broader community of the robustness of cosmological findings.

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