

Impact of Beyond the Standard Model Physics in the Detection of the Cosmic Neutrino Background

The determination of the unknown neutrino fermionic nature is one of the open problems in particle physics. Cosmology has predicted the existence of a Cosmic Neutrino Background in which the fermionic properties would be important. Indeed, recent works have shown that the relic neutrino capture rate would have different values for Majorana and Dirac fermions. We consider the sturdiness of such affirmation by determining the effects of Beyond the Standard Model charged-current interactions on the detection of the Cosmic Neutrino Background by neutrino capture. We find that the total capture rate can be substantially modified for Dirac neutrinos if scalar or tensor right-chiral currents, with strength consistent with current experimental bounds, are at play.

Authorship annotation

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Session and Location

Monday Session, Poster Wall #30 (Robert-Schumann-Room)

Poster included in proceedings:

yes

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