## Phenomenology 2025 Symposium



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## **Diffuse Boosted Cosmic Neutrino Background**

Tuesday 20 May 2025 15:30 (15 minutes)

Cosmic neutrino background (CvB) is notoriously difficult to detect due to its low energy. We investigate the scenario in which CvB is scattered off by energetic cosmic rays throughout the history of the Universe, yielding a diffuse flux boosted to higher energies. The non-observation of this flux with current high-energy neutrino experiments already excludes an average cosmic neutrino background overdensity larger than ~  $10^{4}$  [1].

In this talk, I will present how the boosted flux is calculated, and discuss results from both a previous paper and our recent work.

[1] Herrera, G., Horiuchi, S. and Qi, X., 2025. Diffuse boosted cosmic neutrino background. Physical Review D, 111(6), p.063016.

## Mini Symposia (Invited Talks Only)

Plenary (Invited talks only)

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