

Multi-Messengers Neutrino Scattering on Ultra-Relativistic CvB

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In this study, we analyze the existence of neutrino secret interactions (vSI), mediated by a new massive vector boson. We provide a recipe for setting limits on this BSM scenario by the detection of one or more neutrino events from HEv scattering on non-relativistic and ultra-relativistic CvB for the full mediator mass range. In particular, we present an analysis of the effect of the angular cutting parameter on coupling constant in the light mediator mass range. We illustrate the calculations with constraints on vSI coupling constant from SN1987A and Blazar TXS 0506+056.

Alternate track

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Author: PETROPAVLOVA, Maria

Presenter: PETROPAVLOVA, Maria

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