

Probing new physics with astrophysical neutrinos

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During a core-collapse supernova, a large fraction of neutrinos come out from the proto-neutron star. Some of these neutrinos pair annihilate to produce an electron-positron pair. This process in the fireball is the main source of large GRB energy. In this poster, I will discuss interesting constraints on Z' couplings obtained from GRB observations. I will also discuss that the active-sterile neutrino oscillation in the ultralight dark matter background can also resolve the long-standing problems for the pulsar kick.

Poster prize

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