



Contribution ID: 213

Type: **Oral Presentation**

## Diffuse neutrinos: a look into the past

We are entering an era of unprecedented capabilities for astronomical observations. The analysis of signals in multiple bands, i.e., gravitational waves, gamma and X-rays emissions, will provide detailed insight about the physics of diverse astrophysical phenomena such as neutron star mergers. Neutrinos emitted from compact objects and their mergers, besides playing an important role in the synthesis of elements, can potentially be observed on Earth. Such signals will contribute to our overall understanding of the evolution of these objects. While the occurrence of e.g mergers in the Galaxy is rare, neutrinos from mergers and supernovae have been emitted since these events started occurring in the Universe, and due to their weakly interacting character they are permeating space. Can we detect these neutrinos? In this talk, I shall introduce the diffuse neutrino background from accretion disks, formed during collapsars and neutron star mergers, and discuss its possible detection on Earth.

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**Session Classification:** Workshop on Astro-Cosmo-Gravity