

PPC 2024: XVII International Conference on Interconnections between
Particle Physics and Cosmology

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Type: **Parallel talk**

The Indian Pulsar Timing Array: An overview

Monday 14 October 2024 10:00 (30 minutes)

On June 29, 2023, the five regional PTAs, including the Indian pulsar timing array (InPTA) announced the evidence for the presence of gravitational waves (GWs) in the nano-Hz frequency regime. This was the first evidence for GWs outside the frequency range of those detected by the ground-based observatories. Currently the international PTA community is gearing towards the analysis of the data pooled from all the individual PTAs under the umbrella of the International Pulsar Timing Array (IPTA) which will be released next year. This is expected to improve the detection threshold of the GW signal as well as bring out exciting science results. Moreover, the InPTA is preparing its second data release that consists of more than five years of observations with the upgraded GMRT and its analysis for the detection of GWs. In this talk, I will give a brief about pulsar timing arrays and discuss the new results that have emerged in the past year. I will talk about the current efforts of the InPTA collaboration in the upcoming IPTA data release as well as other exciting endeavours.

Track type

Gravitational waves

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