Results from the search for very-low frequency gravitational waves with the EPTA DR2 and InPTA DR1

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Abstract

The European Pulsar Timing Array (EPTA) and Indian Pulsar Timing Array (InPTA) collaborations have measured a very-low frequency (_˜ nano-Hertz) common signal with correlation properties compatible with a gravitational wave (GW) signal. In this talk, I will present the results of the gravitational wave background search and discuss the implications of the measured signal for different potential GW sources. This extensive effort has been carried out in coordination with other PTA collaborations, resulting in four independent gravitational wave searches. I will conclude my presentation with a cross-check comparison analysis of the different results, and will discuss the prospects for the GW search and characterization with the forthcoming International Pulsar Timing Array Data Release 3.

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