

## 25 years of European Pulsar Timing Array

Pulsar Timing Array (PTA) experiments aim to detect nHz gravitational waves (GW) from supermassive black hole binaries. This is done by looking for correlated variations of the Time of Arrivals (TOA) across an array of ultra-stable millisecond pulsars. Regular observations have been taken and collected over the last 2 or so decades. Three established PTA collaborations: the North American Nanohertz Gravitational Wave Observatory (NANOGrav), the Australian Parkes PTA (PPTA) and the European PTA (EPTA), as well as emerging PTA collaborations from India, China and South Africa all work together in the International PTA consortium towards the common goal of detecting low frequency GWs.

The EPTA can build on the history of European pulsar observations and has therefore the longest timespan of PTA observations of up to 25 years. There are 5 major European telescopes: Effelsberg in Germany, Lovell in UK, Westerbork in the Netherlands, Sardinia in Italy and the Nancay Radio Telescope (NRT). The NRT is a vital part of the EPTA providing a large fraction of the European data. In this talk, I will present some of the most recent results of GW searches from PTA collaborations with a focus on the results from the 25 years of EPTA data.

**Si vous préférez participer SEULEMENT en ligne, veuillez l'indiquer ci-contre**

**Auteur principal:** CHEN, Siyuan (NRT, LPC2E, CNRS)

**Orateur:** CHEN, Siyuan (NRT, LPC2E, CNRS)

**Classification de Session:** Groupe de travail: Développement des détecteurs