



Contribution ID: 406

Type: **not specified**

Can QCD-energy-scale-turbulence sourced gravitational waves detected through PTAs?

Wednesday 15 May 2024 14:00 (15 minutes)

Recently, NANOGrav collaboration (based on 12.5 years of observation) reported strong evidence [Arzoumanian et al. (2020)] and later, the analysis of 15 years of data resulted in confirming the detection of a stochastic gravitational wave background [Agazie et al. (2023)] that can be understood, along with the possibility of the astrophysical sources (such as supermassive black holes) induced gravitational waves, as a signal possibly from the early universe [Figueroa et al. (2023)]. Note, the detection of the stochastic gravitational waves has been confirmed by several missions of pulsar timing array (PTA), including European PTA (EPTA) and Indian PTA (InPTA) [EPTA collaboration; InPTA collaboration (2023)]. I will report the results of direct numerical simulations of gravitational waves induced by hydrodynamic and hydromagnetic turbulent sources that might have been present at quantum chromodynamic (QCD) phase transitions. Based on existing data I will discuss cosmological models constraints.

Mini Symposia (Invited Talks Only)

Author: KAHNIASHVILI, Tina (CMU (USA) and IliaUni (Georgia))

Presenter: KAHNIASHVILI, Tina (CMU (USA) and IliaUni (Georgia))

Session Classification: Gravity & Gravitational Waves

Track Classification: Gravity & Gravitational Waves