

第 63 回 RESCEU コロキウム



東京大学大学院理学系研究科 附属ビッグバン宇宙国際研究センター

日 時: 2024 年 7 月 31 日(月) 13:00 ~14:30

場 所: 理学部 4 号館 1 階ピロティ RESCEU セミナー室

講 師: Achamveedu Gopakumar 氏 (TIFR, Mumbai)

Galaxy-based gravitational wave observatory and its promises

Abstract

Maturing Pulsar timing arrays monitor millisecond pulsars which can be converted into Einstein clocks to search for perturbations due to gravitational waves at nanohertz frequencies. Very recent independent and coordinated investigations by the established Pulsar Timing Array collaborations strongly indicate that the universe is humming with gravitational radiation—a very low-frequency rumble that rhythmically stretches and compresses spacetime and the matter embedded in it. This stochastic GW signal is consistent with that expected from an ensemble of supermassive black hole binaries, but could also be attributable to more exotic sources. I will describe these efforts from the perspectives of the European and Indian Pulsar Timing Array (EPTA+InPTA) consortia. I will share the excitement of our InPTA collaboration which is an Indo-Japanese effort that employs niche abilities of India's upgraded Giant Metrewave Radio Telescope (uGMRT). Possible future directions that include the possibility of pursuing persistent multi-messenger nHz GW astronomy in the SKA era IPTA will be listed.

興味をお持ちの方の聴講を歓迎致します。