量子物理学・ナノサイエンス第 404 回セミナー

Numerical Relativity and Primordial Black Holes with local non-Gaussianities

講師　：　Dr. Cristian Joana
Institute of Theoretical Physics,
Chinese Academy of Science, China

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場所　：　本館 2 階 227C 物理学系輪講室

概　要

I will start giving a brief introduction to solving the full General Relativity equation using Numerical Relativity (NR), and later present our recent work where we investigated the Primordial Black Hole (PBH) formation in the presence of logarithmic non-Gaussianities. There, we have used NR simulations to accurately compute the formation thresholds, and resolve the expected PBH abundances. We also computed the associated Scalar Induced Gravitational Waves (SIGW) and provide the visibility signals for LISA-like experiments, and discuss the SIGW interpretation with respect the nanoHz stochastic gravitational wave background signal from recently reported by Pulsar Timing Arrays observations.

Ref.:　https://arxiv.org/abs/2411.07647

連絡教員　　須山　輝明（内線 2748）