東北大学　宇宙創成物理学国際共同大学院プログラム

GP-PU (Graduate Program on Physics for the Universe）Seminar

“Probing Cosmological Interactions by the Next Generation of Observations”

by Ryo Namba (Tsung-Dao Lee Institute, Shanghai Jiao Tong University)

Date and time: 10:00-12:00, January 19th 2021

Registration: https://us02web.zoom.us/meeting/register/tZIldumorz8tE9W37qRK42toST3KAbYLO9NN

▶ Abstract

Cosmology is the physics of the Universe, and physics is the study of interactions. Interactions in a cosmological context are inevitably those in a gravitating system, since the evolution of the Universe as a whole is governed by gravity. The expansion of our Universe is due to the geometrical nature of gravity, and our Universe was once smaller than the size of an atom. Seeds of the large-scale structure and all the matter we observe today were produced in such a primordial era. In order to probe the interaction processes of elementary particles, which are considered to have played a vital role during this period, detector networks that achieve multi-messenger, multi-frequency observations have been evolving in recent years. This seminar is to review some general aspects of the early universe cosmology and to discuss how primordial interactions can be accessed in the forthcoming era of observations, placing a primary emphasis on direct and indirect detections of gravitational wave.

Contact : Yusuke Tanimura (E-mail: tanimura@nucl.phys.tohoku.ac.jp)