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

“Hadron interactions with strange quarks from lattice QCD”

by Yoichi Ikeda (CiDER, Osaka University)

Time and Date: 15:00-17:00, Nov 24th, 2022

Place: Room 225, H26 (hybrid)

Registration:"https://us02web.zoom.us/meeting/register/tZEldu2srjojEtbUHCAJQnFTn2GJY5FvfJeP”

Abstract: The hadronic interactions play an important role to reveal the emergence of hadron resonances and to bridge nuclear physics and astrophysics from the underlying theory of the strong interaction, quantum chromodynamics(QCD).

In this seminar, starting with simple quantum scattering problems, I will present how we can derive the hadronic interactions from the lattice QCD, which is the first-principles calculation of QCD, and show the applications of the interactions to high-energy collision experiments at LHC Alice. If time permits, I will also present our on-going study using deep neural networks for the classification problem of quantum states from experimental data, which makes the lattice QCD calculation more efficient in near future.

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