



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

# “Nuclear Dynamics within Time-Dependent Density Functional Theory: From Nuclei to Neutron Stars”

by Kazuyuki Sekizawa

(Niigata University)

Time and Date : 10:00 - 12:00, Tue July 28<sup>th</sup> 2020

Venue : Register in advance for this meeting:

<https://us02web.zoom.us/meeting/register/tZwuf-iqpzsiGdxX9eLNQv8pHbIXUXiizbJY>

Abstract:

One of the biggest goals in nuclear physics is to understand a variety of phenomena in many-nucleon systems based on a microscopic framework in a unified way. In recent years, (Time-Dependent) Density Functional Theory, (TD)DFT, has been extensively applied as a powerful tool, which allows us to describe not only structure and dynamics of atomic nuclei, but also properties of neutron stars. In the Lecture, giving a brief overview of basics of nuclear physics, I will explain the concepts of the density functional theory. Then, I will present selected examples of recent studies of quantum many-body dynamics in finite nuclei as well as neutron stars.

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