IOA Seminar

Compact Star in General F(R) Gravity

Date 13:00 - 14:30, March 14 (Monday)

Place 1130, Building 9 (Zoom ID: 881 5903 1592)

Speaker

Kota Numajiri（沼尻光太）

Graduate School of Science,
Nagoya University（名古屋大学）

Abstract

Although general relativity (GR) is the most successful gravity theory, there still exist various problems to describe our universe, from dark sector problems to quantumness of gravity. To explain these problems, modified gravity theories have been considered for decades. Especially the F(R) gravity theory is one of the natural-extended theories and thought to be a hopeful one.

Recently gravitational wave observation has opened the door to test the theory of a strong gravity regime. Therefore the configuration of the compact objects in modified gravity theories should be discussed beforehand to observationally evaluate the deviation from GR, or the functional form of F(R) in other words.

In this talk, the current situation and F(R) gravity theory will be briefly reviewed firstly. Then I will discuss the configuration of the compact star under the general F(R) gravity, and the reconstruction of functional F(R) from the boundary condition and the matter information inside the star.