

2023

6.28 (wed.) 12:10
12:50

12:10-12:15

◆ Introduction

12:15-12:40

◆ Seminar
(Presentation)

12:40-12:50

◆ Q&A

Online
(Zoom)Scan here for
Registration ▶▶https://temdec-med-kyushu-u-ac-jp.zoom.us/webinar/register/WN_14fCCL5sSTaFTUZbDLJtqA

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Supernova explosion and neutrinos

Chair: **Assoc. Prof. Toshinori TANAKA** (Research Promotion Coordinator of Q-AOS)

Key Words

stars

astronomy

physics

elementary particles

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Ken'ichiro Nakazato is an Associate Professor at Kyushu University, Faculty of Arts and Science. He graduated from the Department of Physics at Waseda University, and received a Ph.D. in Science from Waseda University in 2008. His area of expertise is theoretical astrophysics, and he is currently conducting research in neutrino astronomy and nuclear astrophysics. In these fields, he applies microphysics to macroscopic phenomena such as supernovae and neutron stars. He joined Kyushu University in 2015, where he is mainly involved in KIKAN education and also working on developing active learning courses.

A supernova explosion is the most luminous phenomenon in the universe caused by massive stars at the end of their lives. Its brightness can be comparable to that of a galaxy composed of about 100 billion stars at its peak. Supernovae are important because they supply the various elements in our surroundings to the interstellar medium through their explosions. On the other hand, neutrinos are a type of elementary particle that are very light and hardly interact with other particles. Although neutrinos appear to be unrelated to astronomical phenomena, they play a crucial role in supernova explosions. In this seminar, the basics of supernova explosions and neutrinos will be explained, as well as recent topics related to the research conducted by the speaker.