IOA Seminar

The First CO Image of a Water Fountain, and beyond

Date 15:00 - 16:30, March 26 (Friday)

Place Online (腾讯会议 ID: 934 429 806)

Speaker

Prof. Jun-ichi Nakashima（中岛淳一）

中山大学物理与天文学院

School of Physics and Astronomy, Sun Yat-sen University

Abstract

In this seminar, I'm going to talk about "water fountain" objects that has recently attracted attention in the field of evolved star mass-loss. The circumstellar envelope of small and intermediate-mass stars is known to change from spherically symmetric morphology to complex shapes, such as those eventually found in planetary nebulae, but the physical mechanism behind this morphological evolution is not fully understood yet. Since a very tiny molecular jet with a short dynamical timescale is harbored in the central part of water fountains, this object is thought to be at the very early stage in its morphological evolution. Today's talk will begin with a general introduction to evolved star research and also explain the scientific importance of water fountain research. Then, I will present the results of our recent ALMA observation on a proto-typical water fountain W43A. Finally, I will introduce our new project on water fountains we have just started recently at SYSU.

Biography

Prof. Dr. Jun-ichi Nakashima received his Ph.D. from Graduate University for Advanced Studies (Japan) in 2002. After working in research positions in Japan, USA, Taiwan, Hong Kong and Russia, he joined in Sun Yat-sen University as professor in 2019. His recent research topic is mass-loss phenomena in small and intermediate-mass evolved stars, particularly through radio observations.