

You are welcome to nominate speakers to colloquium@nao.cas.cn. The video and slide of previous colloquia and more information can be found at <http://colloquium.bao.ac.cn/>.

国台学术报告 NAOC COLLOQUIUM

2014 年 第 26 次 / Number 26 2014

Time: Wednesday 2:30PM, June 18 Location: A601 NAOC

Stellar tidal disruptions and detections of supermassive black hole binaries in normal galaxies



Fukun Liu (Peking University)

Dr. Fukun Liu is a professor of astrophysics and the director of the Department of Astronomy, Peking University. He got his PhD in astrophysics at SISSA (Italy) under the supervisions of Prof. John Miller, Dr. Antonio Lanza, and Prof. Dennis Sciama in 1999. He went to Chalmers University of Technology as a post-doctoral fellow of the Natural Science Research Foundation of Sweden (NFR fellow) from 1999 to 2001. Then, he joined Peking University. His main research interests are AGNs, the observational signatures of supermassive black hole binaries, electro-magnetic counterparts of gravitational wave radiations, transient activities of galactic nuclei, and stellar tidal disruptions by SMBHs. Recently, he with his research group discovered the first pair of SMBHs in normal galaxies.

Abstract

AGNs and almost all massive galaxies are believed to harbor supermassive black holes at centre. The presence of a supermassive black hole binary (SMBHB) at the center of a galaxy is the smoking gun that the galaxy has merged with another, each with its central black hole. Measurements of this type can provide us with a statistical measure of how many galaxies are the results of a merger, and thus help to understand the evolution of the universe. In addition, SMBHBs are destined to merge in a burst of strong gravitational wave radiations: those that still elude detection and for which scientists are building more and more sensitive telescopes. A couple of SMBHBs have been directly detected and a few observational evidences for their existences in AGNs are present. However, most SMBHBs may form at gas-poor galactic nuclei but are very challenging to discover them. Here I will talk about our theoretical investigations about how to measure them with stellar tidal disruptions and present our discovery of the first pair of SMBHB in normal galaxies. At the end, I will discuss how many similar systems we would expect to detect in the future.



All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.