

国台学术报告 NAOC COLLOQUIUM

2012 年 第 28 次 / Number 28, 2012

TIME: Wednesday, 3:00 PM, June 06, 2012 **LOCATION: A601 NAOC**

Merger-Induced Black Hole Accretion and Star Formation: Observations vs. Simulations

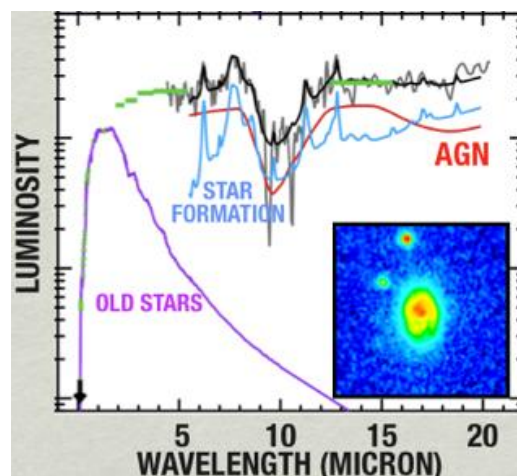


Dr. Hai Fu (University of California)

Dr. Hai Fu is a Postdoctoral Research Associate at the Department of Physics and Astronomy, University of California, Irvine. Before September 2011, He was a postdoc at Caltech Astronomy, a graduate student at the Institute for Astronomy, Hawaii, and an undergraduate at Nanjing University. For his research, he is mostly intrigued by collisions of objects in the Universe, whether they are galaxies, black holes, or asteroids.

Abstract

Galaxy mergers are inevitable in the mass assembly history of galaxies and their supermassive black holes. In merger simulations, gravitational torques induce rapid star formation and black hole accretion in both galaxies by driving gas deep into their nuclei. Such a phenomenon has been observed in a number of merging galaxies. However, it was unclear how well the simulations match the observations, quantitatively. I will talk about two experiments designed to address this issue. First, through a systematic search of kpc-scale binary active galactic nuclei, I will show that mergers enhance black hole accretion at a level consistent with simulations. Secondly, through detailed mid-IR spectroscopy of a complete sample of luminous infrared galaxies at $z \sim 0.7$, I will show that black hole accretion during intensive star formation allows merging galaxies to evolve along the fundamental scaling relation between galaxy mass and black hole mass.



All are welcome! Tea, coffee, biscuits will be served at 2:45 P.M.

You are welcome to nominate speakers to Shude Mao (shude.mao@gmail.com), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn).