

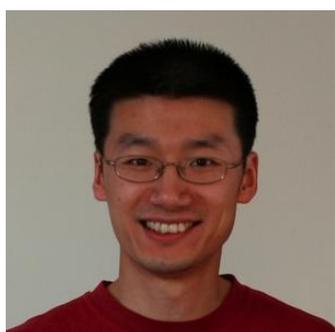
You are welcome to nominate speakers to colloquium@nao.cas.cn. The video and slide of previous colloquia and more information can be found at <http://colloquium.bao.ac.cn/>.

国台学术报告 NAOC COLLOQUIUM

2014年 第25次 / Number 25 2014

Time: Wednesday 2:30PM, June 11 Location: A601 NAOC

Warm Ionized Gas in Early-type Galaxies and SDSS-IV/MaNGA



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Prof. Renbin Yan obtained his Bachelor degree in Physics at Peking University in 2001 and PhD degree in Astrophysics at University of California at Berkeley in 2007. He then worked as a postdoctoral scholar at University of Toronto and an assistant research scientist at New York University. In 2012, he joined the University of Kentucky as an Assistant Professor. He is an expert in utilizing spectroscopic galaxy surveys to study the stellar population, active galactic nuclei, and interstellar medium of external galaxies, and the environmental dependence of galaxy properties. He currently serves as the Survey Scientist for the next generation IFU survey: SDSS-IV/MaNGA.

Abstract

My talk will have two parts. First, I will discuss the warm ionized gas in early-type galaxies. The origin and ionization of these gas reveal the intriguing ongoing evolution of these galaxies. In



most cases, the warm ionized gas show emission-line spectra similar to low-ionization nuclear emission-line regions (LINERs). Their ionization mechanism has been hotly debated. I will present evidence from line ratio gradient and gas temperature measurement that rule out AGN and shocks as the dominant ionization mechanism, and suggest that the gas is photoionized by sources following the stellar density profile. Hot evolved stars are the favorite candidates but bring new puzzles. This finding allows us to obtain a gas-phase metallicity calibration for these early-type galaxies.

Second, I will describe Mapping Nearby Galaxies at APO (MaNGA), which is a planned IFU survey to be carried out as part of the Sloan Digital Sky Survey-IV. Scheduled to start in July of this year (2014), MaNGA will utilize multiple fiberfed integral field units fed to the BOSS spectrograph on the 2.5m Sloan Telescope to study the internal structure and formation history of roughly 10,000 nearby galaxies spanning a wide range in masses, types, and environments. Fiber bundles of various sizes with diameter ranging from 10 arcsec to 35 arcsec will be used to match the apparent size distribution of galaxies. I will give a brief overview of science goals of the survey, and discuss the hardware design, survey sample design, observing strategy, and the expected data quality of MaNGA.

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