A Systematic Search for Dual AGNs in Merging Galaxies

Yang Huang[1]

[1]*Peking University*

We have developed an innovative method of systematically searching and identifying dual-AGN systems amongst kilo-parsec scale merging galaxies. We first select galaxies that are potentially undergoing a merging process from the SDSS imaging survey – galaxies exhibiting two optical cores separated by less than 8 arcseconds. Then, we cross-matche the selected galaxies with the FIRST radio sources in order to exclude physically unrelated pairs. Only systems with a FIRST radio detection and one of the cores that has been previously identified as an AGN by spectroscopy are selected for followup spectroscopy. A total of 185 dual-AGN candidates are selected in this way. To test the effectiveness of the method, we have applied and got observing time of a couple of nights of the YNAO 2.4m telescope. Hitherto, we have observed a total of ~ 40 candidates with the YFOSC long-slit spectrograph. Based on the two-dimensional long-slit spectra acquired, over ten observed candidates are confirmed as real dual AGNs – an efficiency as high as 20-30%, an order of magnitude more effective than the traditional method!