

ABSTRACT

Prevalence of cold neutral gas in centres of low- z galaxy mergers

Major galaxy mergers can funnel large quantities of gas to the central regions of galaxies, triggering intense bursts of star formation and fueling Active Galactic Nuclei (AGNs). While observations have shown that the AGN feedback, both positive and negative, has a strong impact on the evolution of its host galaxy and the environment, what is yet to be well understood is the mechanism that triggers the AGN activity. Major mergers are thought to trigger the most luminous AGNs, though the connection between galaxy mergers and AGN activity still remains debatable. Hence it is of great importance to study the properties of gas in the circumnuclear discs and tori in AGN hosts associated with galaxy mergers, in order to test the connection between AGN activity and galaxy mergers. We have recently carried out a study of the circumnuclear cold atomic gas in radio-loud AGNs that are associated with ($z < 0.2$) merging galaxies using HI 21-cm absorption. We have found a prevalence of cool neutral gas in the central regions of these mergers, indicating that HI 21-cm absorption is a good tool to select gas-rich mergers. Results from our multiwavelength studies of these low- z mergers will be presented in this talk.