

How is the neutral ISM of NGC 4383 impacted by its ionised gas outflow?

Abstract

The nearby galaxy NGC4383 is an intriguing object: it hosts an extended HI disc ~ 40 kpc in diameter that is fuelling an intense central burst of star formation. New VLT/MUSE observations have revealed that this star-burst is powering a massive bipolar outflow of ionised gas extending ~ 5 kpc in projection (currently unpublished). Archival HI observations indicate the presence of extra-planar HI gas that could be associated with the outflow, however, the spatial resolution is insufficient to study the outflow's impact on the HI directly. Thus, we request 9.2 hours of MeerKAT time to obtain a 5-arcsec spatial resolution map, 9 times greater than the archival data, which, combined with the VLT/MUSE observations, will enable us to study the multi-phase properties of the outflowing gas, providing unique constraints to theoretical stellar feedback models.