

Proposal Abstract:

We propose to obtain the spectral lines of HI for the host galaxies of the recently discovered low-redshift Hot Dust-Obscured Galaxy (Hot DOG) W1254+1011. Although AGN dominates this system as the major luminosity source, its host galaxy still shows strong star formation activity. With a total of 4.2 hours of observation with FAST/L-band, we will obtain the 30-SNR detection of the HI line for W1254+1011. This observation will provide crucial information on Neutral gas in the low- z Hot DOG and compare similar systems in the distant Universe ($z > 2$), which will provide an invaluable hint about how the accreting supermassive black hole and its host galaxy interact during the fast evolution stage with high accretion and strong feedback.