

Resolving the emission regions of Active Galactic Nuclei and Star forming galaxies in the Local Universe

Georgios Magdis (Univ. of Oxford)

In this talk I will present a few examples from the local Universe where the availability of a far-infrared interferometric facility is a must to advance our level of understanding. For AGN, I will briefly review results from current facilities and discuss the importance of resolving the nuclear kinematics around black holes and the NLR/BLR. I will briefly touch upon the importance of spatially resolved observations of the OH molecular line which allows us to set important constraints on AGN feedback. For local luminous infrared galaxies and starbursts I will review the results from Herschel on far-infrared fine structure lines and how resolving the emitting regions is the only way forward if we are to disentangle the complex physics and geometry of the ISM in these galaxies. Finally, I will zoom out of the local Universe and present the case for the detection of molecular hydrogen at very high redshifts.