

NASSP Honours project 2024
North West University
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Radio properties of Hyper-Luminous Obscured Quasars

Project Description:

Hyper-luminous quasars are a population of heavily obscured objects, characterized by their extreme bolometric luminosity and significant dust and gas obscuration. These objects are believed to mark a critical evolutionary stage of massive galaxy evolution characterized by rapid supermassive black hole (SMBH) growth and active galactic nuclei (AGN) activity. Due to the presence of significant obscuration in hyper-luminous quasars, their inner regions and emission mechanisms remain unexplored. While optical and infrared studies have provided valuable insights into their properties. Understanding the radio properties of these objects, including energetic processes, jet formation, and interaction with their host galaxies, is crucial for gaining a comprehensive understanding of their nature. This project aims to characterize the radio properties of hyper-luminous obscured quasars through multi-wavelength observations. The student will focus on creating a sample from radio observation catalogs, such as MeerKAT, of hyper-luminous obscured quasars and studying their multiwavelength properties.