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MeerKAT follow-up of enigmatic radio sources in the G4Jy Sample

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The GLEAM 4-Jy (G4Jy) Sample, formed from the GLEAM survey, comprises 1,863 of the brightest extragalactic radio-sources in the southern sky, the vast majority of which are active galactic nuclei with powerful radio jets. However, 140 of these sources have uncharacterised/ambiguous host galaxies due to the inadequate resolution (of 25 to 45-arcsec) of existing radio images. In this talk, I present key results from studying these 140 G4Jy sources These sources were observed with MeerKAT to assess their radio morphology and enable their host-galaxy identification through MeerKAT's higher resolution images. Our observations reveal a treasure trove of unusual radio sources: 5 of the 140 G4Jy sources have X-, S-/Z-shaped morphology, 10 have head-tail morphology, and 14 have a wide-angle tail (WAT) morphology. We report finding host galaxies for 98 of the 140 sources, leaving 42 with no identified host galaxy (Sejake et al., 2023).

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