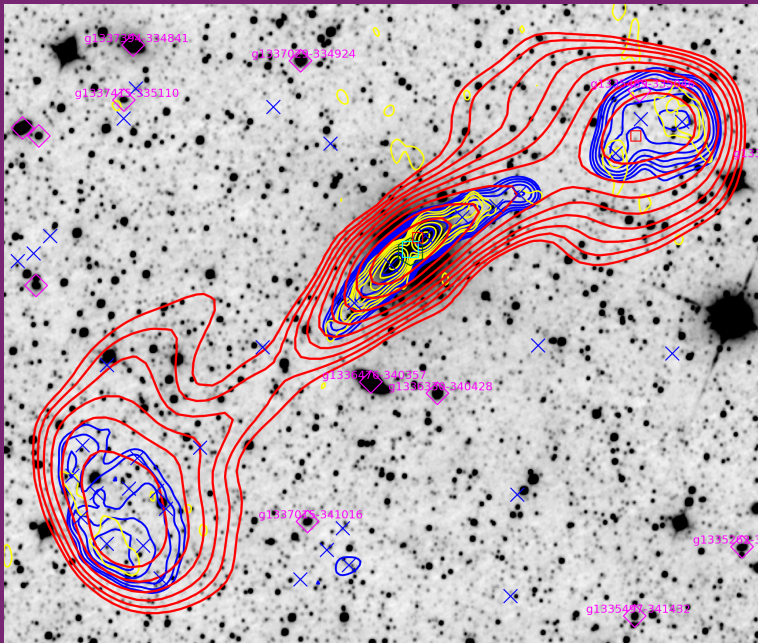


RHODES UNIVERSITY
Where leaders learn

The GLEAM 4-Jy (G4Jy) Sample

(White et al., 2020a, 2020b)



“A complete sample of the brightest, extragalactic radio-sources in the southern sky – ideal for detailed active-galaxy studies in the SKA era, and without an orientation bias”



SARAO
South African Radio
Astronomy Observatory



Curtin University





The GLEAM 4-Jy (G4Jy) Sample (White et al., 2020a, 2020b)

<https://arxiv.org/abs/2004.13125>

<https://arxiv.org/abs/2004.13025>

Paper I: Definition and the catalogue

Paper II: Host-galaxy identification

for individual sources

Repeated visual inspection using

GLEAM (170-231 MHz),

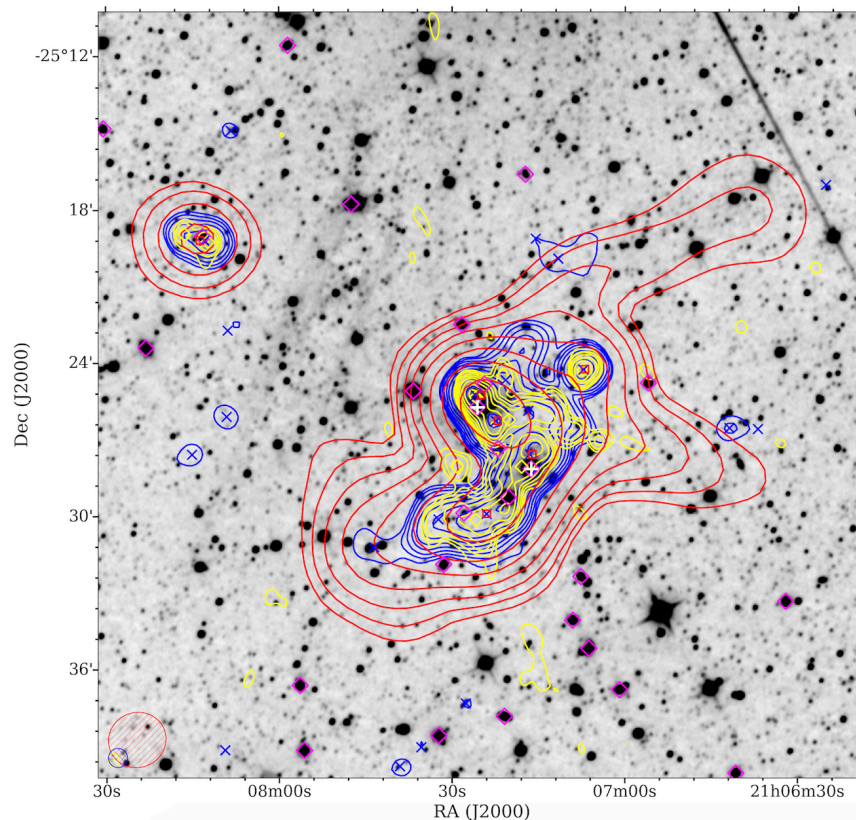
NVSS (1400 MHz), or SUMSS (843 MHz),

TGSS (150 MHz), AT20G (20 GHz),

6dFGS (optical), and AllWISE (mid-infrared),

followed by thorough literature checks during

cross-identification.



Sarah White (Rhodes University), Thomas Franzen, Chris Riseley, Ivy Wong, Anna Kapińska, Natasha Hurley-Walker, Joseph Callingham, Kshitij Thorat, Chen Wu, Paul Hancock, Richard Hunstead, Nick Seymour, Jesse Swan, Randall Wayth, John Morgan, Rajan Chhetri, Carole Jackson, Stuart Weston, Martin Bell, Bi-Qing For, Bryan Gaensler, Melanie Johnston-Hollitt, André Offringa, Lister Staveley-Smith



sarahwhite.astro@gmail.com <https://github.com/svw26/G4Jy>



The GLEAM 4-Jy (G4Jy) Sample (White et al., 2020a, 2020b)

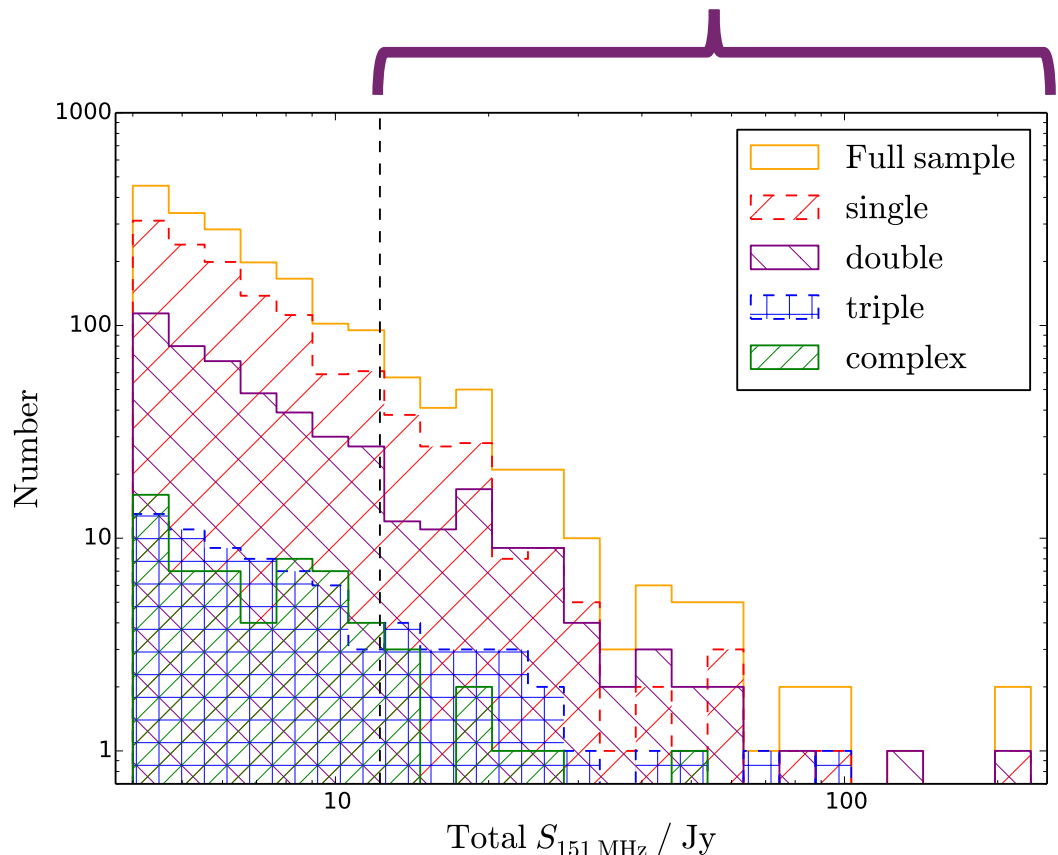
<https://arxiv.org/abs/2004.13125> <https://arxiv.org/abs/2004.13025>

A catalogue of 1,863 sources with integrated $S_{151\text{ MHz}} > 4\text{ Jy}$.

For reference, the revised Third Cambridge Catalogue of Radio Sources (3CRR; Laing et al., 1983) contains 173 active galaxies with $S_{178\text{ MHz}} > 10.9\text{ Jy}$.

Our **morphology** classification (*single/double/triple/complex*) is mostly based upon 45" resolution radio-images at $\sim 1\text{ GHz}$.

We also provide **total flux-densities** at multiple frequencies, and **spectral indices**, in the G4Jy catalogue.



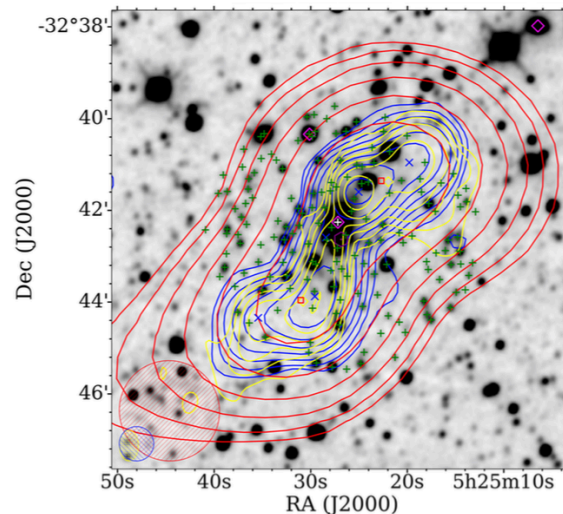


The GLEAM 4-Jy (G4Jy) Sample (White et al., 2020a, 2020b)

<https://arxiv.org/abs/2004.13125>

<https://arxiv.org/abs/2004.13025>

- **Mid-infrared identifications for 86% of the sample (1,606 sources)**
- 129 sources with ambiguous hosts, including four sources where we question the existing identification
- 126 sources with a host that is faint or uncharacterised in the mid-infrared



The G4Jy Sample includes:

- At least 8 giant radio-galaxies (> 1 Mpc)
- 14 S-/Z-/X-shaped radio sources
- 23 bent-tail radio-galaxies
- 18 head-tail radio-galaxies
- Two nearby, star-forming galaxies
- The Flame Nebula
- A cluster relic and a halo

140 sources with MeerKAT follow-up (PI: White) – so stay tuned!

sarahwhite.astro@gmail.com <https://github.com/svw26/G4Jy>