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Deep Field Imaging of the GAMA9 and GAMA23 Regions

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Thousands of observations of the well-studied Galaxy and Mass Assembly (GAMA) fields, GAMA9 and GAMA23, have been conducted with the MWA (Murchinson Widefield Array) radio telescope for the MWA Interestingly Deep Astrophysical Survey (MIDAS) and the GAMA23 OverwheLming Deep (GOLD) survey. Here we present deep images of the GAMA9 and GAMA23 fields centered at a frequency of 215.68 MHz with a bandwidth of 30.72 MHz, produced from these observations obtaining an RMS below 1 mJy/beam. These deep field images will assist in determining source counts to produce low-frequency radio luminosity functions that can be used to analyse radio galaxy evolution. In addition, we provide a detailed description of the automated Deep Imaging Pipeline (DIP) that enabled the creation of these images. DIP was adapted from the pipeline used in the GaLactic and Extragalactic All-sky MWA X (GLEAM-X) survey with improvements in the cleaning for deep imaging and automation to allow large batch processing with minimal user input.

keywords

Deep Field GAMA9 GAMA23 GAMA MWA Survey Processing

In-person or online?

online

Career level

Student

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