

# CORNISH: A 5 GHz VLA survey of the Galactic plane

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**Abstract.** The CORNISH (Co-Ordinated Radio ‘N’ Infrared Survey for High-mass star formation) project is the radio continuum part of a series of multi-wavelength surveys of the Galactic Plane that focus on the northern GLIMPSE-I region ( $10^\circ < l < 65^\circ$ ,  $|b| < 1^\circ$ ) observed by the SPITZER satellite in the mid-infrared (Churchwell *et al.* 2009). CORNISH has delivered a complementary 5 GHz arcsecond resolution, radio-continuum survey to address key questions in high-mass star formation as well as many other areas of astrophysics.

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The CORNISH survey was conducted in 2006 and 2007 with the Very Large Array in B and BnA configurations, yielding a uniform ( $< 10$  percent variation), high-resolution ( $\sim 1.5''$ ) map of the 110 square degree target area. With a root-mean-squared noise level of  $\sim 0.4$  mJy/beam the survey is sufficiently sensitive to detect Ultra-Compact HII (UCHII) regions produced by B0 stars or earlier right across the Galaxy. In addition, the survey has furnished samples of a wide range of radio sources, including planetary nebulae, ionised winds from evolved massive stars, non-thermal emission from active stars, high energy sources, active galactic nuclei and radio galaxies.

Over 4000 radio sources have been detected above  $7\text{-}\sigma$ , one quarter of which are unresolved and have a flat distribution in Galactic latitude. The distribution of sources with angular sizes greater than  $2''$  peaks in the Galactic mid plane and exhibits infrared colours consistent with UCHII regions, planetary nebulae and evolved stars. We are in the process of identifying these sources via their GLIMPSE (Churchwell *et al.* 2009), MIPS GAL (Carey *et al.* 2009) and UKIDSS (Lawrence *et al.* 2007) colours, and via associations with other Galactic plane catalogues e.g., IPHAS (Drew *et al.* 2005) and the BU-FCRAO Galactic Ring Survey (Jackson *et al.* 2006). Pipeline reduced image data are now available to the community via the project website ([www.ast.leeds.ac.uk/Cornish/](http://www.ast.leeds.ac.uk/Cornish/)) and a high-reliability catalogue is in preparation.

## References

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