

## **Measuring Galactic Synchrotron with the C-Band All Sky Survey USNC-URSI National Radio Science Meeting**

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The C-Band All Sky Survey (C-BASS) is an experiment designed to characterize Galactic foreground radiation, particularly synchrotron radiation and anomalous microwave emission. C-BASS is a 5 GHz survey of the radio sky in both intensity and polarization with a bandwidth of 1 GHz and a resolution of  $\sim 0.8$  degrees. Our primary aim is to produce high fidelity all-sky HEALPix maps with a target sensitivity of 0.1 mK per beam (0.78 mK per NSIDE 512 pixel) in Stokes I, Q and U. These maps will be essential in constraining the effects of foreground radiation on CMB B-Mode polarization and will also improve constraints on models of Galactic structure and magnetic fields. The C-BASS experiment comprises two ground-based single dish telescopes located in the northern and southern hemispheres, one based at the Owens Valley Radio Observatory in California and the other based at the SKA support base in Klerefontein, South Africa. The telescope in California has completed its observations and was decommissioned in mid 2015 after observing since late 2012. The analysis of the northern survey data is in an advanced state, and we are currently performing a suite of self-consistency tests to ensure science-quality data. The instrument in South Africa has undergone a receiver commissioning phase at Hartebeesthoek Radio Observatory and has now been deployed on site in Klerefontein where it is undergoing final commissioning and has already begun taking data. In this presentation, I will give a status update on the C-BASS project and I will present some preliminary maps and science results.