

The Canadian Galactic Plane Survey

Lewis B.G. Knee

Dominion Radio Astrophysical Observatory, Herzberg Institute of Astrophysics,
National Research Council Canada, P.O. Box 248, Penticton BC V2A 6J9, Canada
lewis.knee@nrc-cnrc.gc.ca

The Canadian Galactic Plane Survey (CGPS) is a large collaboration pursuing high-resolution multiwavelength studies of the interstellar medium (ISM) over wide fields of view in the Galactic plane. The observational component of the CGPS is being carried out primarily by the Synthesis Telescope (ST) at the Dominion Radio Astrophysical Observatory (DRAO). Complementary data sets from other instruments have been integrated with the DRAO data to produce a database which traces all the major components of the ISM. The centrepiece of the CGPS is the first high-resolution interferometric survey of the HI 21-cm line over a significant area of the northern Galactic plane. This unique dataset is leading to scientific discoveries in many areas of ISM studies, the most important of which concern the largely unexplored realm of cold neutral atomic hydrogen, large-scale mass and energy transfers from the plane to high Galactic latitude, and the detailed interaction between stars and HI.

The initial target of the CGPS was a 666 square degree section of the plane 9 degrees wide in Galactic latitude (b) and extending from Galactic longitude (l) 74 degrees to 147 degrees. All of the HI data in this first phase of the CGPS has now been observed and processed, and is being made publically available for research through the Canadian Astronomy Data Centre (CADC). As part of a project to map the majority of the Galactic disk in HI, the International Galactic Plane Survey (IGPS), the CGPS has entered a second phase of observations which will extend the longitude coverage in the plane to 64 degrees in the inner- and 175 degrees in the outer-Galaxy. Also part of the second phase is the imaging of a restricted longitude range ($100 < l < 117$ degrees) up to high latitudes, $b = +17.5$ degrees. This will permit study of the ISM in the Perseus Arm high above the Galactic plane as well as the extended complex of nearby low mass star forming clouds known as the Cepheus Flare.

For more information, see the CGPS public web page at
<http://www.ras.ualgary.ca/CGPS/>

For data download from the CADC, go to:
<http://cadwww.hia.nrc.ca/cgps/>