

Technical Page

Proposal Type: Regular
 General Category: Astronomy
 Sub-Category: Spectroscopy
 Observation Category: Galactic
 Total Time Requested: 20 Hours

Proposal Title: Kinematic Distances to Massive Star Formation Regions in the Inner Galaxy
ABSTRACT:

The SIRTf/GLIMPSE Legacy Science Program plans to image the inner 2/3 of the Galactic disk. Distances of the sources along the line of sight will be inferred by coincidence with known objects, which all suffer from distance ambiguity. In the pilot survey of 21 massive SFR in the first quadrant of the Galaxy, the H110a line in emission and the 110-111 line of H2CO in absorption were observed simultaneously using the Arecibo antenna. The H110a line was used to establish the velocity of the HII regions and the H2CO absorption components were used to distinguish between near and far distances. It was possible to establish unambiguous distance for 95% of the sample. In preparation to the SIRTf mission we propose to observe 45 UC HII regions in the SIRTf survey region to attempt to resolve their distance ambiguity. A by-product of our observations will be information about the spiral structure in our Galaxy.

Name	Institution	E-mail	Phone	Student
Edward Churchwell	University of Wisconsin - Madison	churchwell@astro.wisc.edu	(608) 262-4909	no

I do NOT want to do remote observing.

Instrument Setup

C

Atmospheric Optical Instruments:

Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned