

STRUCTURE OF THE LARGE MOLECULE DISTRIBUTION IN THE TAURUS MOLECULAR CLOUD

GLEN I. LANGSTON and KYLE WOOLARD, *National Radio Astronomy Observatory, Green Bank, WV 24915.*

We present observations of the distribution of long carbon chain molecules in TMC-1. The molecular line intensities for three cyanopolyynes molecules HC_5N , HC_7N and HC_9N were observed in a $25'$ diameter region. The four molecular line transitions were observed towards TMC-1 using the Robert C. Byrd Green Bank Telescope (GBT). These observations were made simultaneously in the frequency range 12780 to 13540 MHz. The images show the emission is primarily in along a narrow ridge. We present images of the molecular line intensity as a function of position, and compare the locations of peak molecular emission. Near the location of peak line intensity, the emission is well fit by a Gaussian profile. We present the ratio of molecular line intensities for the three species. The angular distribution of the molecules is very similar. We interpret the similarity of structure in terms of the chemical age of regions of the cloud.

In addition, if all goes well, we will also present first results form the GBT 18 to 26 GHz Focal Plane Array receiver.