Proposal Title: Establishing a larger sample of a newly discovered population of weak 6.7-GHz methanol masers toward high-mass clumps in the Hi-GAL survey

ABSTRACT:

Our recent discovery with the Arecibo telescope (A2712) of a previously unknown population of weak (< 0.1Jy) 6.7-GHz methanol masers (toward a sample of Hi-GAL sources) has lent support to the idea that methanol masers may be exclusively associated with the early phases of massive star formation. The final goal of this project is thus to ascertain the true nature of this weak maser population. In particular, we want to determine whether they are indeed associated with an earlier phase during the evolution of high-mass (proto)stars or, rather, they simply represent a different set of excitation conditions in the pumping source. The first step in achieving this goal consists of increasing the number of detected weak maser sources to allow a more robust statistical analysis. Therefore, our main goal with this proposal is to select and observe more Hi-GAL sources in search for further weak 6.7-GHz methanol masers.

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Remote Observing Request

- Observer will travel to AO
- Remote Observing
- In Absentia (instructions to operator)

Instrument Setup

C-high

Atmospheric Observation Instruments:
Special Equipment or setup: none

RFI Considerations

Frequency Ranges Planned

We possibly need protection from RFI currently in the range 5990 to 6020 MHz