**Chemistry Study on Hot Corino Serpen South CARMA-7**

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Abstract

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Keywords: hot corino, astrochemistry, ALMA

**1. Introduction**

This thesis studies the chemistry property of a recently discovered hot corino object, CARMA-7 in the Serpen South region. CARMA-7 is one of the 15 hot corinoes discovered so far and has a high degree of chemical richness and traces of possible bipolar molecular outflow. This thesis will list molecular line identification results from 6 spectral windows from ALMA observations in 2016 (?) and will attempt to discuss possible structure of the source.

**2. Observation**

A set of ALMA observation was conducted in 6 spectral windows with different rest frequencies and frequency ranges.

<spectral widow information table>

**3. Methods**

To accurately identify all emission lines from all 6 spectral windows, a variety of substraction and molecular line identification methods were attempted. These methods including STATCONT, CASA ADMIT and XCLASS. A suite of Python programs were also developed to aid visualization of a .fits cube.

**4. Results**

Chemical richness + possible bipolar molecular outflow.

References

1. Surname A, Surname B and Surname C 2015 *Journal Name* **37** 074203
2. Surname A and Surname B 2009 *Journal Name* **23** 544