COMPLEX ORGANIC MOLECULES IN THE INTERSTELLAR MEDIUM IN THE ERA OF ALMA

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Amino acids were discovered in meteorites and glycine, the simplest of them, in samples returned from a comet to Earth. These discoveries strongly suggest that the chemistry of the interstellar medium (ISM) is capable of producing such complex organic molecules and that they may be widespread in our Galaxy. So far, about 180 different molecules have been discovered in the ISM or in circumstellar envelopes of late-type stars. However, these interstellar molecules still have a limited degree of chemical complexity and no amino acid has been detected in the ISM until now.

One of the key sites to search for new complex organic molecules in the ISM has turned out to be the star-forming hot molecular cloud core Sgr B2(N). I will describe the techniques used to decipher its molecular content based on a single-dish line survey of this source [1]. The analysis of this survey led to the detection of several new species [2,3,4] and will serve as a solid basis for the search for new complex organic molecules with the Atacama Large Millimeter/submillimeter Array (ALMA). I will discuss the perspectives offered by this new, powerful interferometer in this context.

References:

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