

Molecular complexity in prestellar cores

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A tremendous advance in instrumentation for spectroscopy of the interstellar medium took place during the last decade. Major facilities such as ALMA, SOFIA and Herschel have been constructed and commissioned, so that science opportunities in the field of astrochemistry have increased by a huge factor. Major discoveries have occurred because of the greater sensitivities of existing telescopes such as IRAM (30 meters and NOEMA), and also because new spectral ranges, so far hidden by the Earth's atmosphere, were finally revealed. The high sensitivity as well as the spectral resolution of the instruments led to the discovery of many species, and the spatial resolution was the key point to uncover the spatial distribution of these species.

I will present the recent advances made in the earliest phase of low-mass star-forming regions, namely the prestellar core phase and will acknowledge the links made between molecular physics and chemistry and the beautiful observations performed with nowadays instruments.
