Chemistry of star forming regions including deuteration: modeling and observation

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Résumé

It is now well known that Ortho and Para spin modifications of various H and D bearing species is important due to some reactions which are much faster with ortho-H2 than para-H2, and can change the entire chemistry of deuterium fractionation. Ortho, Para, and Meta states of H2, D2,H3+,H2D+, D2H+, and D3+ are the main species involved in deuterium fractionation. In my talk, I will discuss the chemistry of the star forming regions driven by these main deuterated species. Also, I would like to discuss the results of various astrochemical along with spectroscopic modeling that can be applied together to set the guidelines to observe new chemical species in the interstellar medium.
Reff:

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2. L. Majumdar, Ankan Das, Sandip K. Chakrabarti, 2014, A & A, 562, 56
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