

Water in solar-type protostars

Audrey Coutens & Audrey Andreu¹

¹*Institut de Recherche en Astrophysique et Planétologie (IRAP), Université de Toulouse, UPS-OMP, CNRS, CNES, 9 av. du Colonel Roche, F-31028 Toulouse Cedex 4, France*

Water is a very abundant molecule in star-forming regions. Deuteration, through the measurements of the HDO/H₂O and D₂O/HDO ratios, is commonly used to characterize the formation and evolution of water during the star formation process. Since the last decade, more and more studies have been carried out with the ALMA and NOEMA interferometers to investigate the innermost regions of solar-type protostars (< 100 au). These regions are particularly interesting as planet formation should take place there. The water probed by these observations could therefore be incorporated into the forming planets, asteroids and comets. While the majority of these studies focused on young protostars (Class 0), we have recently studied the water deuteration in a more evolved protostar (Class I), L1551 IRS5 (Andreu et al. to be submitted). In this presentation, we will show these new results and discuss their implication for the evolution of water during the star and planet formation process.