

ICES AROUND THE PROTOSTELLAR OBJECT RAFGL7009S.

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The protostellar object RAFGL7009S has revealed to be one of the most extinct source in the infrared that present ice absorption features, sharing this with the well known object W 33A. It is thus particularly interesting for our understanding of the physico-chemical aspects of both solid (refractory as well as volatile species) and gas phase at low temperature. Thanks to the ISO spectrometers, we could observe simultaneously the gas and solid column densities for species either impossible to detect (CO₂) or hardly detectable (CO, CH₄, H₂O) from the ground. The observed gas-to-solid abundance ratios have some implications on the gas-grain exchange of these species.

will also detail the evaluation of an upper limit on the deuterium/hydrogen ratio in this line of sight and the consequences for the high fractionation observed in the gas phase.

I will also discuss the analysis of the profile of the solid carbon dioxide ν_2 bending mode which exhibit a peculiar behavior (double or triple sub-structure) toward many lines of sight. I will briefly discuss the entire spectrum of such an object as seen with the combined SWS and LWS spectrometers.