

Gas-grain interactions in interstellar chemistry explored with PIRENEA

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Abstract. Gas-grain interactions play an important role in interstellar chemistry, both in UV-irradiated regions and in the coldest regions of molecular clouds. However, their detailed study suffers from the lack of experimental data. The PIRENEA set-up combines the trapping capabilities of an ion cyclotron resonance (ICR) cell with cryogenic shielding to produce and isolate nanograins of interstellar interest. It is also equipped with several photon sources and gas inlets and allows the study of the gas-grain interactions in interstellar conditions. We will present the first results obtained with systems such as polycyclic aromatic hydrocarbons (PAHs) and silica nanoparticles.

Keywords. astrochemistry; methods: laboratory

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