

"Modeling surface processes on interstellar grains: linking laboratory data with astronomical observations"

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Surface processes play a role in many different environments, including the extreme environment of interstellar space. Here, despite the low pressures and temperature, active chemistry occurs. Many simple, but important, interstellar molecules, including H₂, H₂O and CH₃OH, are believed to be formed on the surfaces of interstellar dust grains. Molecular hydrogen forms on the surface of graphitic grains, whereas H₂O and CH₃OH form in ices. In this talk I will show how a combined effort of laboratory experiments and theoretical modelling can give us fundamental insight into the formation of these three species under interstellar conditions.