

Spectroscopic observations of large TNOs with the ESO-VLT

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We observed three large TNOs, Eris, 136108 (2003 EL₆₁), and Orcus, using the new integral field spectrometer SINFONI at the European Southern Observatory - Very Large Telescope (ESO-VLT) in the H and K spectral regions. Some complementary spectroscopic data were obtained with FORS (visible) and ISAAC (J-band) at the VLT, as well as with EMMI (visible) at the ESO-NTT.

The high quality of the SINFONI spectra and modelling of all available spectroscopic data combined together provide new information on the surface composition and properties of the three objects, in particular the state of mixing of the methane (pure or diluted in N₂) on the dwarf planet Eris and the phase and temperature of water ice on Orcus and 2003 EL₆₁.

Results of these observations will be presented. Implications concerning the dominant endogenous/exogenous processes at the surface of these large TNOs will also be discussed.