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Near infrared observations of TNOs with SINFONI

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The trans-Neptunian objects are probably the most primitive objects in the Solar System and their study carries important clues about the history of formation and evolution of our planetary system. From 2001 the Meudon group started an observational campaign at VLT/ESO to observe by spectroscopy these faint and distant objects to investigate their surface composition. Recently, a new instrument has been installed, the Spectrograph for INtegral Field Observations in the Near Infrared, SINFONI. This instrument allows to obtain cubes of data with spectra of medium resolution of TNOs, useful to search for subtle absorption features.

Here we present data for three plutinos: 26375 (1999 DE_9), 38628 Huya, and 47932 (2000 GN_{171}) searching for possible rotational inhomogeneities and/or features on their spectra. We also present data of the distant TNO 90377 Sedna searching for absorption bands, such as the band at 2.3 μm, probably due to methane ice, proposed by Barucci et al. (2005, A&A, 439, L1). A comparison with previous published observations is performed and the results discussed.

A parallel presentation of SINFONI data is presented in this same conference by de Bergh et al. in the frame of the study of 136108 (2003 EL_{61}).