

Surface ice spectroscopy of Pluto, Charon and Triton

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New reflectance spectra of Pluto and Triton taken with ESO adaptive optics instrument NACO at the VLT in the wavelength range $(1-5)\mu m$ are presented. For Pluto, it is the first time that the L band is measured without contamination by light from Charon, and for both objects M band spectra were never measured before. Apart from known and expected absorption bands from methane ice, our data reveal new absorption bands centered around $4.0\mu m$ and $4.6\mu m$ never detected before. The latter absorption could be related to the presence of CO ice at the body surfaces. Charon's spectrum is also measured in the wavelength range $(1-4)\mu m$, for the first time simultaneously with, but isolated from that of Pluto. Charon's spectrum has previously been studied in some detail in the JHK wavelength region but was never measured above $2.5\mu m$. As expected, our Charon spectrum is dominated by the absorption bands of water ice but a narrow absorption band, unidentified still, is found around $3.7\mu m$. The non-detection of the - at that time - unknown Pluto moonlets in our short exposures for slit acquisition of Pluto-Charon allows to put a lower limit of 18.8mag for the K band brightness of Hydra and Nix.