

# SSHADE Users Newsletter – September 2025

## Focus on SOSYPOL !

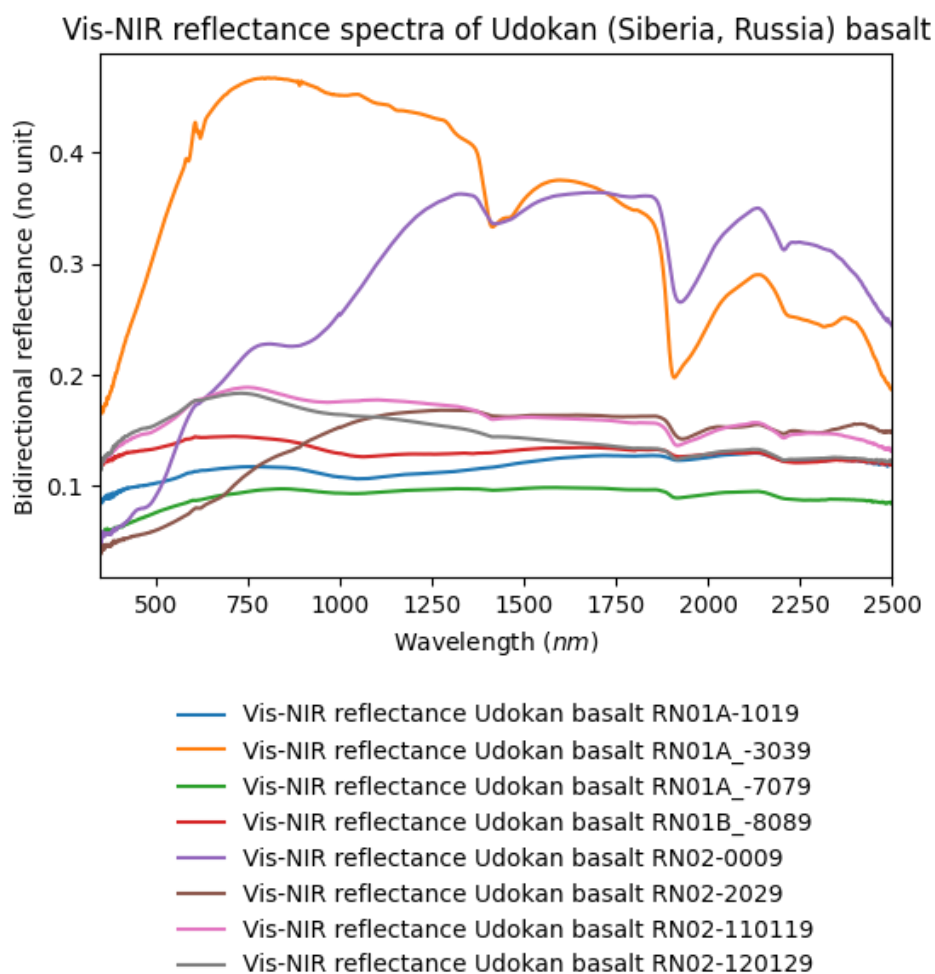
Dear SSHADE users,

This month, we spotlight the SOSYPOL database: SOLar SYstem analogues database POLand. Developed by the Solar System Dynamics and Planetology Group (SSDPG) at the Space Research Centre of the Polish Academy of Sciences (SRC PAS), SOSYPOL contributes more than 250 high-quality reflectance spectra of planetary analogues, with a special focus on Martian surface processes and icy outer Solar System bodies.

### Martian analogues from Earth's extremes environments

The SOSYPOL database includes visible and near-infrared (Vis–NIR) reflectance spectra of basalts that have undergone an alteration in two extreme terrestrial environments:

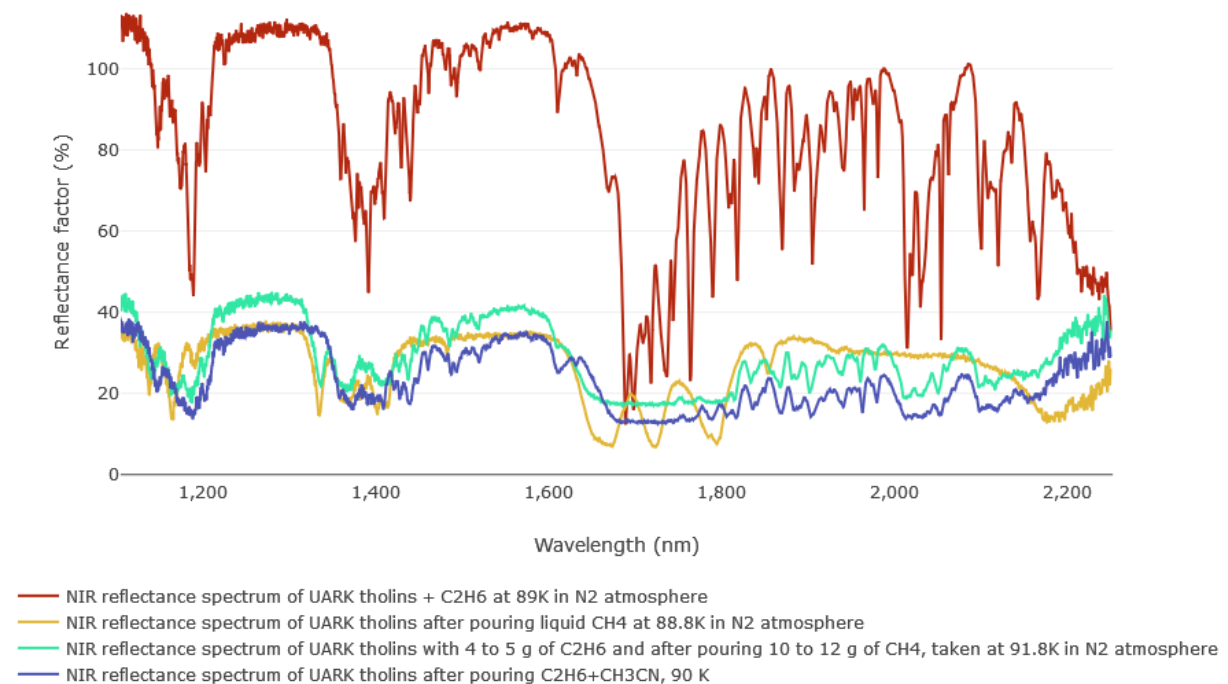
- Udokan Plateau (Siberia, Russia): a cold, arid environment. For instance, [Vis-NIR reflectance spectra of Udokan](#) (Siberia, Russia) from this region can be found in the database.
- Ogaden Basin (Ethiopia): a hot, arid environment.



These altered basalts help interpret spectral signatures observed on Mars' surface, particularly concerning weathering processes, secondary mineral formation, and past environmental conditions.

## Ice–Organic Mixtures for Outer Solar System Bodies

In addition to rocky materials, SOSYPOL provides NIR and MIR reflectance spectra of ice–organic mixtures measured at various temperatures and pressures. For instance, SOSYPOL contains [NIR and MIR reflectance spectra of mixtures of tholins with liquid and solid CH<sub>4</sub>, C<sub>2</sub>H<sub>6</sub> and CH<sub>3</sub>CN](#) at several temperatures down to 90K.



These datasets are relevant for determining the surface composition of Pluto and Charon, including volatile ices and complex organics or for constraining the composition of Titan's atmospheric aerosols. They provide a critical input for missions such as New Horizons, JUICE, and future probes targeting the outer Solar System.

Have fun with SSHADE data!

The SSHADE Team

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