



SSHAD Users Newsletter

New datasets recently added to SSHAD

May 2026

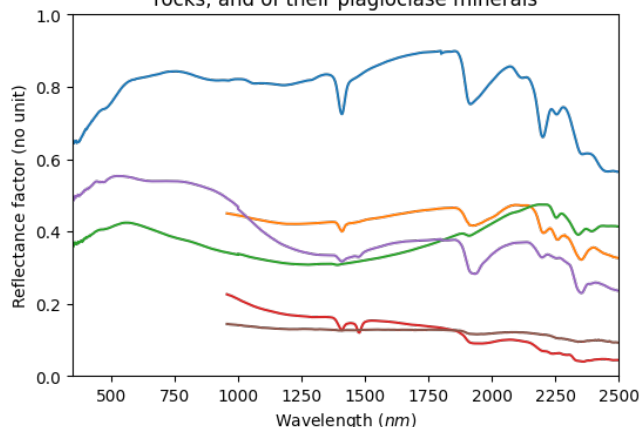
Dear SSHAD users,

This month we highlight a selection of datasets recently imported in SSHAD, showcasing the diversity of experimental data now available on the database and how delving into these data can transport us on an exploratory journey across our Solar System.

First stop on Mars

New reflectance spectra have been imported in the **Mirabelle database**. These datasets provide Visible Near-InfraRed (VNIR) average spectra of **terrestrial plutonic rocks and of their plagioclase constituents**, used as analogues of the surface of Mars.

Visible and near-infrared spectra of terrestrial feldspathic plutonic rocks, and of their plagioclase minerals

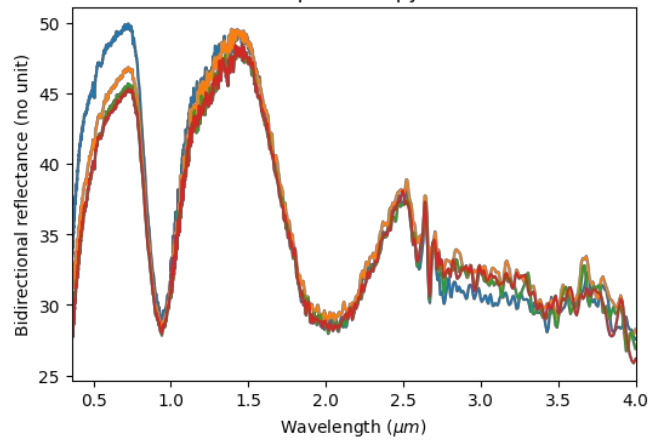


- VNIR reflectance spectrum of Granite (CM1) measured on cut slab using the Contact Probe (ASD Fieldspec 4)
- SWIR reflectance spectrum of the plagioclase contained in Granodiorite (CM15), measured on cut slab using the SWIR-640 camera (HySpex)
- VNIR reflectance spectrum of Tonalite (NB2) measured on cut slab using the Contact Probe (ASD Fieldspec 4)
- SWIR reflectance spectrum of the plagioclase contained in Gabbro (ND5), measured on cut slab using the SWIR-640 camera (HySpex)
- VNIR reflectance spectrum of Anorthosite (NM8) measured on cut slab using the Contact Probe (ASD Fieldspec 4)
- SWIR reflectance spectrum of the plagioclase contained in Gabbro (VTG25), measured on cut slab using the SWIR-640 camera (HySpex)

Heading for the main asteroid belt for a stopover at Vesta

Data on HED meteorites, considered as originating from Vesta, have recently been uploaded to DAISY. These measurements were performed on **meteoritic HED pellets irradiated with helium ions** and probed using Vis-NIR spectroscopy, simulating the effects of solar wind exposure on planetary surfaces.

He⁺ irradiation of meteoritic HED pellets probed by Vis-NIR spectroscopy

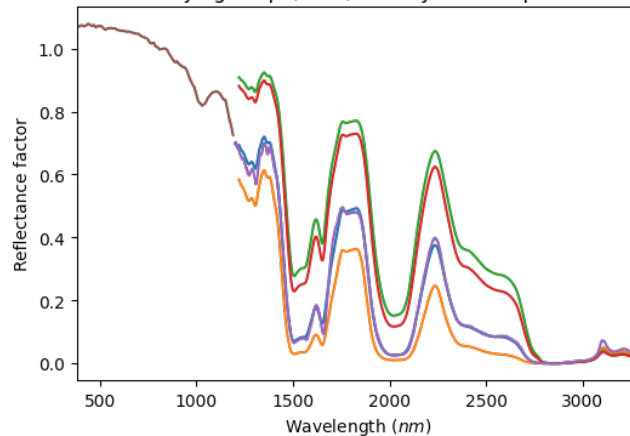


- VisNIR reflectance spectrum of non-irradiated NWA 4968 pellet
- VisNIR reflectance spectrum of irradiated NWA 4968 pellet (He⁺, 1E16 ions/cm²)
- VisNIR reflectance spectrum of irradiated NWA 4968 pellet (He⁺, 3E16 ions/cm²)
- VisNIR reflectance spectrum of irradiated NWA 4968 pellet (He⁺, 6E16 ions/cm²)

Last stop on icy planetary surface

Now let's head to the outer Solar System to study icy surfaces using the latest data imported in BYPASS. These simulations represent a semi-infinite medium composed of particles with varying shape, size, density, and temperature, enabling advanced modeling of icy planetary surfaces, as shown in [these simulated Vis-NIR reflectance spectra of crystalline water ice](#).

Vis-NIR reflectance spectra simulated for crystalline H₂O ice. The simulated sample is a semi-infinite medium consisting of particles with varying shape, size, density and temperature.



- NIR reflectance spectrum simulated for crystalline ice at a temperature of 100 K. The simulated sample is a semi-infinite medium consisting of GRS particles (50% volume fraction; 67 μm average diameter).
- NIR reflectance spectrum simulated for crystalline ice at a temperature of 100 K. The simulated sample is a semi-infinite medium consisting of SPH particles (50% volume fraction; 67 μm average diameter).
- NIR reflectance spectrum simulated for crystalline ice at a temperature of 100 K. The simulated sample is a semi-infinite medium consisting of SPH particles (20% volume fraction; 6.7 μm average diameter).
- NIR reflectance spectrum simulated for crystalline ice at a temperature of 100 K. The simulated sample is a semi-infinite medium consisting of SPH particles (20% volume fraction; 9 μm average diameter).
- NIR reflectance spectrum simulated for crystalline ice at a temperature of 60 K. The simulated sample is a semi-infinite medium consisting of GRS particles (50% volume fraction; 67 μm average diameter).
- Vis-NIR reflectance spectrum simulated for crystalline ice at a temperature of 266 K. The simulated sample is a semi-infinite medium consisting of GRS particles (50% volume fraction; 67 μm average diameter).

Have fun exploring SSHADE data!

The SSHADE team

All previous user newsletters are stored in the dedicated [News](#) page of [the SSHADE wiki](#).

You are receiving this SSHADE User Newsletter because you are a registered user of [SSHADE](#). If you do not wish to receive them, please send an e-mail to our contact address (contact@sshade.eu) with the subject "unsubscribe User Newsletter".