SSHADE Users Newsletter – September 2024 –

Focus on DOCCD

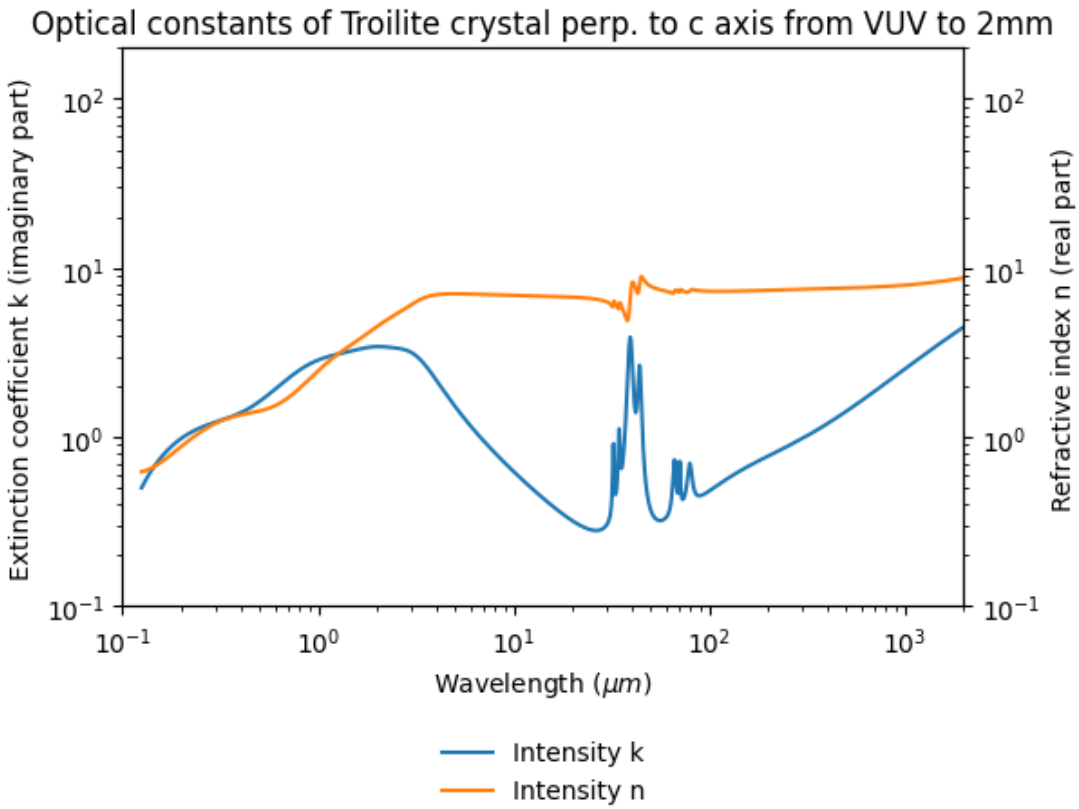
Dear SSHADE users,

This month, we would like to focus on a German Database: DOCCD (Database of Optical Constants for Cosmic Dust).

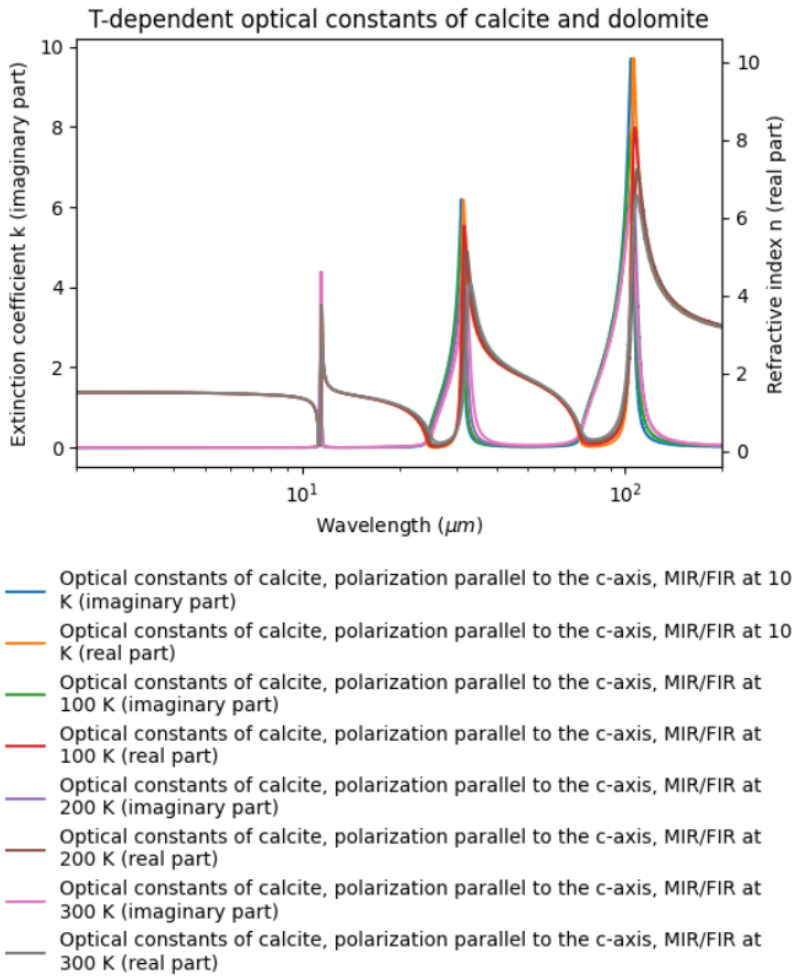
Developed by the Astrophysical Institute and University Observatory (AIU) at Friedrich Schiller University Jena, DOCCD offers a comprehensive compendium of optical data derived from precise specular reflection and transmission spectra analyses of polished samples and thin sections. In many cases, DOCCD spectra encompass a large spectral range and different sample temperatures. They are meant to serve as input data for simulating absorption and emission of radiation by cosmic dust particles in astrophysical models and other applications.

DOCCD already contains more than 100 spectra collected on various materials, ranging from silicates and oxides to carbonaceous substances. Optical constants, as well as some absorption coefficient spectra, can be downloaded from SSHADE:

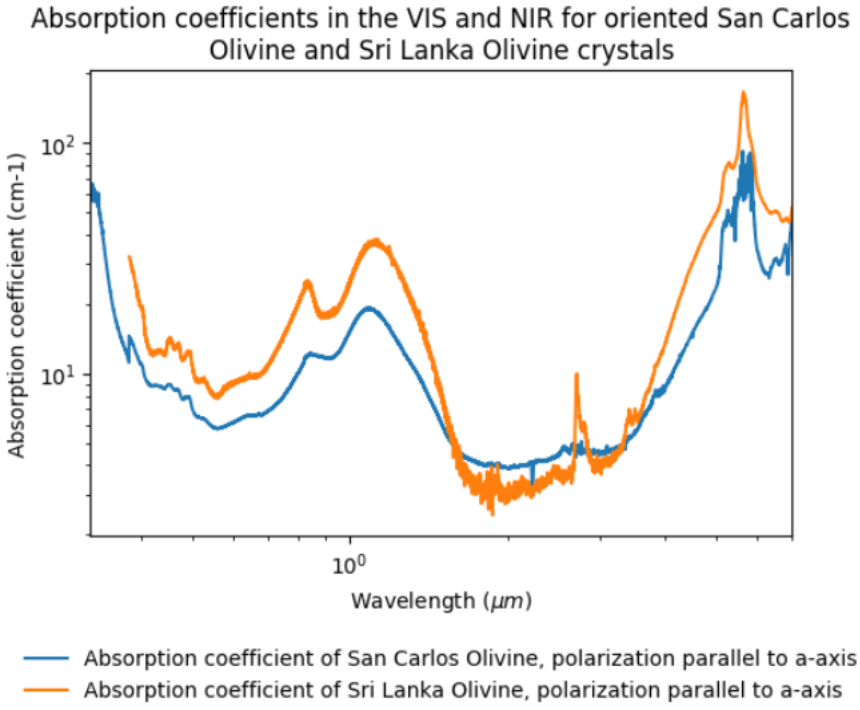
- Optical constants can be found from the UV to Far-IR. Recently, such data have been added for Iron Sulfides (Troilite and Pyrrhotite):



- Temperature-dependent optical constants in the MIR-FIR range are also available for multiple samples. Below, you can find the example of optical constants measured for carbonates at different temperatures between 10 and 300K.



- You can also find absorption coefficients of silicate and oxides in the Near-IR-Visible range, as illustrated below for the example of [two olivines with different Fe content](#).



Stay tuned for future data.
Have fun with SSHADE data!
The SSHADE Team

All previous user newsletters are stored in the dedicated **'News' page** of the SSHADE Wiki