Dust opacities at far-infrared and sub-mm wavelengths

Harald Mutschke[1], Simon Zeidler[1], Thomas Posch[2]

[1]*Astrophysikalisches Institut und Universitäts-Sternwarte, Friedrich-Schiller-Universität Jena, Germany*
[2]*Institut für Astronomie, Universität Wien, Austria*

We present laboratory results on the temperature-dependent opacity of silicate minerals and glasses at far-infrared and sub-mm wavelengths, as measured in the Jena Astrophysical Laboratory. On the one hand, we investigate the development of far-inrared band profiles with temperature when cooling minerals such as phyllosilicates from room temperature down to low temperatures (10K). On the other hand, we have measured the decrease of the continuum opacity for crystalline and amorphous silicates in the same temperature range. The results are important for the interpretation of observations of cold dust in the interstellar medium and in (proto-)planetary systems.