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Measured telluric continuum-like opacity beyond 1 THz

J.R. Pardo (1), E. Serabyn (2), M.C. Wiedner (3)

(1) IEM - Departamento de Astrofísica Mol ecular e Infrarroja, CSIC, Serrano 121, E-28006 Madrid, Spain (pardo@damir.iem.csic.es / Fax: +34 91 5645557), (2) Division of Physics, Mathematics and Astronomy, Caltech, MS 320-47, Pasadena, CA 91125, USA, (3) Physikalisches Institut, Universität zu Köln, Zülpicherstr. 77, 50937 Köln, Germany.

An extensive study of the atmospheric transmission at millimeter and submillimeter wavelengths has been performed since the early 1990s with a Fourier Transform Spectrometer (FTS) mounted on the Caltech Submillimeter Observatory (CSO) atop Mauna Kea (Hawaii), 4100 m above sea level. The goal of these observations is to compile a data base of accurately calibrated atmospheric transmission spectra for use in refining atmospheric models. In this context, the definition of the "quasi-continuum" opacity component is paramount. While our earlier work extending up to 1.0 THz has allowed the separation of the "wet" and "dry" quasi-continua components, with both shown to be following ν^2 laws in this regime, here we report on the extension of these observations to 1.6 THz. In the higher frequency regime, our preliminary results indicate that the ν^2 description may begin to fail due to proximity to the FIR band centers. Comparisons of our data below 1 THz with extant models give a remarkable agreement.