

ABSORPTION CROSS-SECTIONS IN HITRAN2016: MAJOR DATABASE UPDATE FOR ATMOSPHERIC, INDUSTRIAL, AND CLIMATE APPLICATIONS

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In this talk, an overview is given for the recent absorption cross-section update in the new HITRAN2016 spectroscopic database release. The updated cross-sections include data for around 330 molecules for applications in atmospheric remote sensing, industrial pollution tracking, climate change monitoring, remote sensing, spectral calibration, and more. These cross-sections come from high-resolution laboratory observations, predominantly using FT-IR technique. The update largely relies on spectra from the PNNL quantitative spectroscopic database and the Hodnebrog et al. (Rev Geophys 2013) compilation, but also on other recently published data for many applications such as biomass burning detection, remote sensing in the UTLS, environment monitoring, etc. (references will be given in the talk). The described data are available via the HITRANonline website^c and HITRAN Application Programming Interface (HAPI)^d. This work is supported by NASA AURA (NNX14AI55G) and NASA PDART (NNX16AG51G) grants.

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^cHill C. et al. JQSRT 2016;177:4–14.

^dKochanov RV et al. JQSRT 2016;177:15–30.