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README FOR SUPPLEMENTARY ("ALTERNATE") DATA

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The HITRAN2016 database: absorption cross-sections.

Structure:

TYPE	NAME	DESCRIPTION
[DIR]	HITRAN2012/	HITRAN2012 alternate sub-folder
[DIR]	cross_section_data/	Cross-sections only for updated molecules from HITRAN2016
[DIR]	cross_section_headers/	JSON headers for cross-sections given in cross_section_data
[DIR]	molecule_headers/	JSON headers for molecules given in cross_section_data
[DIR]	source_headers/	JSON headers for sources given in cross_section_data
[TXT]	summary_cross_sections.html	HTML summary table on cross-sections in cross_section_data
[TXT]	summary_molecules.html	HTML summary table on molecules in cross_section_data
[TXT]	summary_sources.html	HTML summary table on sources in cross_section_data

This part of the database contains cross-sections that come from high-resolution laboratory observations, predominantly from Fourier transform spectrometers.

Some of these measurements include small negative values, which for the HITRAN-formatted cross-sections were substituted by zeroes. In these cases we provide all the original cross-sections in a supplementary "Alternate" folder, because the negative values provide the user with some information about the noise level and other possible artifacts in the measurements.

Please note that the recommended way of getting the cross-section data is using the web-interface <http://hitran.org/xsc>

If you are using the cross-sections from HITRAN, please cite the following paper:

I.E. Gordon, L.S. Rothman, C. Hill, R.V. Kochanov, Y. Tan, P.F. Bernath, M. Birk, V. Boudon, A. Campargue, K.V. Chance, B.J. Drouin, J.-M. Flaud, R.R. Gamache, J.T. Hodges, D. Jacquemart, V.I. Perevalov, A. Perrin, K.P. Shine, M.-A.H. Smith, J. Tennyson, G.C. Toon, H. Tran, V.G. Tyuterev, A. Barbe, A.G. Csaszar, V.M. Devi, T. Furtenbacher,

J.J. Harrison, J.-M. Hartmann, A. Jolly, T.J. Johnson, T. Karman, I. Kleiner, A.A. Kyuberis, J. Loos, O.M. Lyulin, S.T. Massie, S.N. Mikhailenko, N. Moazzen-Ahmadi, H.S.P. Muller, O.V. Naumenko, A.V. Nikitin, O.L. Polyansky, M. Rey, M. Rotger, S.W. Sharpe, K. Sung, E. Starikova, S.A. Tashkun, J. Vander Auwera, G. Wagner, J. Wilzewski, P. Wcislo, S. Yu, E.J. Zak,

"The HITRAN2016 molecular spectroscopic database",
Journal of Quantitative Spectroscopy and Radiative Transfer,
Volume 203, 2017, Pages 3-69, ISSN 0022-4073,
<https://doi.org/10.1016/j.jqsrt.2017.06.038>.

<http://www.sciencedirect.com/science/article/pii/S0022407317301073>

Keywords:

HITRAN; Spectroscopic database; Molecular spectroscopy;
Molecular absorption; Absorption cross-sections; Absorption
coefficients