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## FTIR OZONE SPECTRA : FOCUS ON THE $^{16}\text{O}^{18}\text{O}^{18}\text{O}$ $C_s$ SYMMETRY ISOTOPIC SPECIES

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Since many years, the GSMA Reims team is working on high resolution IR spectra of the ozone molecule, including isotopic species. The analyses of the  $C_{2V}$  ( $^{16}\text{O}_3$ ,  $^{18}\text{O}_3$ ,  $^{16}\text{O}^{18}\text{O}^{16}\text{O}$  and  $^{18}\text{O}^{16}\text{O}^{18}\text{O}$ ) have been performed in the whole  $1000\text{-}7900\text{ cm}^{-1}$  domain using either the Reims FT spectrometer, or the Grenoble Cavity Ring Down spectrometer, depending on the spectral range under study <sup>1 2</sup>

Here, we will focus our attention on the analyses of the  $^{16}\text{O}^{18}\text{O}^{18}\text{O}$  spectra recorded with the FTS of Reims between  $800\text{ and }5700\text{ cm}^{-1}$ . Thanks to accurate predictions of band centres and rotational parameters <sup>3 4</sup> sixteen bands (6986 transitions) have been observed and assigned. We will present parts of the analyses: parameters of the effective Hamiltonian model, number of assigned transitions, statistics of fits and examples of agreement between observed and simulated spectra. We also will present the comparisons between predictions and retrieved of band centres and rotational constants.

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<sup>1</sup>Y. Babikov, S. Mikhailenko, A. Barbe, VI. Tyuterev : Spectroscopy and molecular properties of ozone, [www.ozone.univ-reims.fr](http://www.ozone.univ-reims.fr) and [www.ozone.iao.ru](http://www.ozone.iao.ru).

<sup>2</sup>A. Barbe, S. Mikhailenko, E. Starikova, M.-R. De Backer, VI.G. Tyuterev, D. Mondelain, S. Kassi, A. Campargue, C. Janssen, S. Tashkun, R. Kochanov, R. Gamache and J. Orphal, *J. Quant. Spectrosc. Radiat. Transfer*, 130, 172-190, (2013).

<sup>3</sup><http://symp.iao.ru/ru/hrms/17/proceedings/>, VI.G. Tyuterev, R. Kochanov, S. Tashkun, Proceedings of the XVII International Symposium HyghRus-2012, isbn:978-5-94458-133-4, 29-50 (2012).

<sup>4</sup>F. Holka, P.G. Szalay, Th. Muller, VI.G. Tyuterev, *J. Phys. Chem. A*, 114, 9927-9935, (2010).