Atmos. Chem. Phys. Discuss., 7, S1780–S1782, 2007
www.atmos-chem-phys-discuss.net/7/S1780/2007/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Oxidative capacity of the Mexico City atmosphere – Part 1: A radical source perspective" *by* R. Volkamer et al.

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Received and published: 14 May 2007

Volkamer et al. calculated j(HONO) using measured actinic flux spectra, absorption cross sections recommended by Sander et al. (2006), and an assumption of unity quantum yields. They then applied a factor of 1.43 to the j(HONO) data to account for recent findings by Wall et al. (2006). I think there is no need for a correction, let alone a factor of 1.43. Basically this would mean that recently measured HONO absorption cross sections, i.e. Stutz et al. (2000), are wrong by a similar factor. Moreover, Wall et al. (2006) actually reported a smaller correction and the factor of 1.43 remains unexplained.

Wall et al. (2006) infer a factor of 1.19 by using measured j(HONO) from a chemical actinometer, simulated actinic flux spectra, and absorption cross sections from an

earlier recommendation by Sander et al. (2003). The older recommendation produced 7–8% greater j(HONO) compared to the most recent recommendation by Sander et al. (2006). Thus a factor of 1.28 were appropriate to account for the results by Wall et al. (2006). However, there are several reasons why this correction should not be applied. Firstly, theses results are merely based on simulated actinic flux spectra. Secondly, Equation (18) by Wall et al. is erroneous because it is based on an incorrect factorisation of an integral. Thirdly, such a correction is inconsistent with the good agreement within 10% between measured and simulated j(HONO) of the same work by Wall et al., supporting the used HONO absorption cross sections.

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Interactive comment on Atmos. Chem. Phys. Discuss., 7, 5365, 2007.

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