Atmos. Chem. Phys. Discuss., 11, C12014–C12015, 2011
www.atmos-chem-phys-discuss.net/11/C12014/2011/

Atmospheric Chemistry and Physics Discussions

Interactive comment on "Daytime HONO Vertical Gradients during SHARP 2009 in Houston, TX" *by* K. W. Wong et al.

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Received and published: 17 November 2011

Response to Comment by C. Fittschen

We would like to thank the Dr. Fittschen for the helpful comments on our manuscript. Below is our response (in italics).

The authors discuss in the introduction the possibility of HONO formation from excited NO_2 with H_2O, as reported by Li et al (2008). Even though the authors exclude themselves this reaction as a major source of the observed HONO, we would point out our recent work showing clearly, that the observed OH radicals in the work of Li et al originate from a process involving at least 2 photons: Direct observation

of OH radicals after 565 nm multi-photon excitation of NO2 in the presence of H2O Chemical Physics Letters, Volume 513, Issues 1-3, 6 September 2011, Pages 12-16 Damien Amedro, Alexander E. Parker, Coralie Schoemaecker, Christa Fittschen.

Therefore this reaction is of no importance for the atmosphere.

The comments are well-taken. We have included this study in our paper. The sentence "Recent laboratory study by Amedro et al. (2011) also found that this reaction is not important in daytime HONO formation." was added to the text.

Amedro, D., Parker, A. E., Schoemaecker, C., and Fittschen, C.: Direct observation of OH radicals after 565 nm multi-photon excitation of NO_2 in the presence of H_2O, Chem. Phys. Lett., 513, 12-16, 2011

Interactive comment on Atmos. Chem. Phys. Discuss., 11, 24365, 2011.