

Interactive comment on “Photolysis frequency measurement techniques: results of a comparison within the ACCENT project” by B. Bohn et al.

Anonymous Referee #1

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This manuscript describes intercomparison measurements of photolysis frequencies between two different types of spectroradiometers and two different filter radiometer types. It is a very thorough intercomparison and emphasizes both good and bad aspects of the instruments involved. I recommend publication of this manuscript after a few minor comments have been addressed.

Specific comments and questions:

Lines 161–163 / figure 1: I don't understand the meaning of the second panel. A little explanation would be good for the general atmospheric science audience.

Figure 1 (again): when using two receivers to measure total actinic flux from both zenith and nadir, e.g. on a tower or airplane, the combined response curves Z_p would lead

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to an overestimation of the radiation from around 90° . For example, the sum of the Z_h values for a polar angle of 90° amounts to around 1.8. I would like to see a discussion of this and how it can be accounted for.

Lines 170-171: Is this 2% deviation still true for aircraft operation, where the polar angle of the sun can be quite different than the solar angle?

Lines 359-360: the authors should make clear that, for scanning spectroradiometers, wavelength is proportional to time.

Lines 361-367: Could this be tested by averaging over longer time periods compared to the measurement times?

Lines 391-392: This statement is not correct for the IUP-SR for $j(\text{NO}_2)$, where the slope is 1.02 and the ratio is 0.986.

Figure 12: this seems to be the wrong graph, it is identical to fig. 13 and does not show any correlation plots.

Interactive comment on Atmos. Chem. Phys. Discuss., 8, 10301, 2008.

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