

Interactive comment on “Photolysis frequencies in water droplets: Mie calculations and geometrical optics limit” by B. Mayer and S. Madronich

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The referee made a number of constructive comments which will certainly help to improve the paper and for which we would like to thank him. Below are our detailed replies to the points the referee raised. The original referee comments are printed in italic.

1. The authors might think about the title. In my opinion the title is a bit misleading because no photolysis frequency but the actinic flux density within droplets is calculated.

We re-phrased the title: “Actinic flux and photolysis in water droplets: Mie calculations and geometrical optics limit”

2. It is unclear to me why the discussion on the absorption due to dissolved molecules is part of section 2.1 entitled Geometric optics. It should rather be a part of a section discussing absorption properties and/or photolysis frequencies of several species.

The discussion is presented in this section because it is specifically important for the interpretation of the geometrical optics limit. In addition, we think this part is too short to justify an extra section.

3. Furthermore, I would suggest to have a separate subsection on the discussion of the resonance since it is a mayor part of the paper.

Same as above. The discussion here belongs to the Mie calculations specifically and we think it is too short to justify an extra section.

Specific comments

We fully agree with all specific points and considered them in the revised manuscript. Thanks for careful reading!

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 4105, 2004.

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