Geosci. Model Dev. Discuss., 8, C4344–C4345, 2016
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Geoscientific Model Development Discussions
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# *Interactive comment on* "The libRadtran software package for radiative transfer calculations (Version 2.0)" *by* C. Emde et al.

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Received and published: 4 April 2016

We would like to thank the anonymous reviewer for the helpful comments and suggestions. Please find below our response to all points (reviewer comments in italic):

*1. The paper should emphasis what is the added-value of this paper with respect to the user guide?*

Certainly the most important point of the paper is that users need a reference for the model which they can use in their publications. The User Guide cannot serve as such a reference since it is grey literature which changes continuously. The previous libRadtran paper is more than 10 years old and it has been referenced close to 500 times, illustrating the need for a reasonably up-to-date reference. In addition to just docu-



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menting the parts of libRadtran, the papers explains a number of new and previously not documented features, e.g. how the optical properties of ice clouds were created. The paper, on the other hand, is no substitute for the User Guide which documents all 200 input options and has close to 200 pages. We feel that both are needed (and so do the users, obviously).

*2. Information is lacking about the performance of this model when compared to other models for standard cases, or RTE solver between them.*

This is a very important suggestion. A section on the "accuracy of solvers" has been included. Here references to a number of model intercomparison studies are provided which demonstrate the performance of libRadtran in comparison to a variety of other models. A reference to a comparison between the MYSTIC and the DISORT solver is also given. Further it is suggested to use MYSTIC as reference solver in order to estimate the accuracy of other solvers.

*3. In Section 3.2, some parts of MYSTIC are not publicly available. Is it therefore appropriate to present them here?*

The text has been slightly changed and the 3D version of MYSTIC is now only mentioned at the end of the section. It should be mentioned in the paper that there is the 3D version and that it is available in joint projects.

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Interactive comment on Geosci. Model Dev. Discuss., 8, 10237, 2015.