Geoscientific
Model Development
Discussions

Interactive comment on "The libRadtran software package for radiative transfer calculations (Version 2.0)" *by* C. Emde et al.

Anonymous Referee #2

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General comments

This paper provides an overview of the latest stable version of the radiative transfer package libRadtran, emphasizing the new features (e.g. the reptan parameterization, the new radiative transfer equation solvers, the new available schemes for aerosols, clouds, etc) that have been integrated in version 2.0 of this popular and widely used code. It is well written, has a good structure and, despite having many technical terms, is easy to read. In addition, the manuscript includes an extensive list of references that allows interested users to be able to access details if desired. The applications described also illustrate the historical and potential future usefulness of the package. Thus I believe the submitted manuscript is an important contribution for the radiative transfer model community and should be published in GMD following a minor revision.

I have just a few comments/suggestions.

Specific comments

1) Section 3: The authors present the main features of the basic solvers used in libRadtran and the improvements that have been implemented in them. However, they do not provide a comparison with other codes/models. Moreover, it would very useful if they could provide a table containing the estimated uncertainties in the derived irradiances/radiances (possibly as a function of solar zenith angle), to help users select the right solver for their particular needs.

2) Section 8.2: In the LibRadtran manual, it is mentioned that the "translate.py" function can be found under the directory "src_py/" but it is not clear at this point in the text.

3) Section 11: It would nice if the authors could provide the input files (possible as a supplement) so that the example presented here can be easily repeated by interested users. Moreover, the package itself includes a number of examples under the directory "examples/" that could be used (especially by new users) to create input files they would need.

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