

## ***Interactive comment on* “Technical note: The libRadtran software package for radiative transfer calculations – description and examples of use” by B. Mayer and A. Kylling**

**B. Mayer and A. Kylling**

Received and published: 7 June 2005

We thank reviewer 1 for his constructive comments! Following are the comments (in italic) and our replies:

*1) I was confused about the polar angle integration limits in Eqs. (4) and (6) which imply a sign convention. For example in the case of an isotropic radiation field ( $L=\text{const.}$ ) integration of Eqs. (5) and (6) yield  $2\pi L$  for  $F_{\downarrow}$  and  $-2\pi L$  for  $F_{\uparrow}$ . Thus the net (vertical) flux cancels out, but of course the total flux corresponds to  $4\pi F$ . The authors should address this point.*

The reviewer is certainly correct! The integration limits were wrong and we corrected

them in the revised manuscript.

*2) On page 1328, line 26 and the following, layer and level properties are discussed. The layer concept used by the program is also illustrated in Fig. 4. The authors should add a note on how many layers are used in the actual RT calculations and whether or not this is an adjustable parameter.*

Done. The default number of levels in the standard atmosphere is 50, between 0 and 120km. This number is easily changed and we used up to 1000 layers for our calculations.

*1) Page 1329, line 22 (twice) and 1351, lines 11 and 13: Replace 'specie' by 'species'. Species is both singular and plural.*

Done.

*2) Page 1352, line 5: Replace automagically by automatically (unless magic is involved in RT calculations).*

The authors first became aware of the word automagically while reading the "Programming Perl" book by Larry Wall and Randal L. Schwartz. Larry Wall is a linguist and is careful in his wording. Automagically describes a process that occurs automatically and with a certain level of mystery so that it seems somewhat magical. There is certainly nothing magical about radiation transport. However, in the paper the word is used about a script which main purpose is to set a number of options for the compiler, linker etc. This process is automatic and may for the non-programmer appear as magical as well. Hence, we choose to use the word automagically.

*3) A wavelength should be indicated in Fig. 7.*

Done. The figure is actually true for the whole visible wavelength range, as the observations were not spectrally resolved.

---

Interactive comment on Atmos. Chem. Phys. Discuss., 5, 1319, 2005.