This paper documents a new, Python-based radiative transfer model. This is a welcome addition to the radiation modelling toolkit that is indispensable for weather/climate modelling and remote sensing applications. I would recommend the authors address the following issues, mostly minor, in revision.

A main comment is that as the model is advertised for education, the model package and the paper can be configured to present more diverse and illuminating examples. Currently it's focused/limited to radiance (brightness temperature). Instead of (or in addition to) the input processing, which the paper has talked much about, it would be of more pedagogic value to have examples of computation and diagnosis of different quantities, such as Jacobians, optical depth, weighting function, etc. One heuristic case to showcase the ability of the model may be the logarithmic dependence of monochromatic radiance (Huang & Bani, https://doi.org/10.1002/2014JD022466), which would involve radiance simulation and differencing to verify the phenomenon (log dependence) and involve optical depth and weighting function to understand/explain the phenomenon.

We thank the reviewer for this comment. It's true that the examples in Section 4 present brightness temperatures calculations, so to show the ability to provide the simulations to compare with observations from ground (Section 4.1), satellite (4.2), and airplane (4.3). However, Section 4.3 also shows the computed atmospheric opacity for both uplooking and downlooking views from 5km altitude (Figure 6). Other examples focus on absorption model analysis (4.4), and the sensitivity to spectroscopic parameters and the associated uncertainty (4.5). In addition, Section 6 draws the reader/user to the official documentation, where more examples are given (https://satclop.github.io/pyrtlib/en/main/examples/index.html). To acknowledge the reviewer's suggestion, we added one example to the library, where the logarithmic dependence of monochromatic radiance indicated by Huang & Bani (2014) is reported for 183 GHz. The calculation of weighting functions is not currently available, but it is planned among the future developments and thus was added to the end of Section 5.

Eq 2-5: better to formulate and explain the equations for a slant path, to disclose more fully the parameters that need to be set for the model to run. It would also be better to include necessary description for limb view cases, which the model is said to handle too.

Eqs 2-5 are general, as s indicates the position along the propagation direction, which may be vertical as well as slant. However, we modified the section to clarify the simulation geometry. Note that the current implementation does not handle limb view. In the original manuscript, limb view was only mentioned when describing ARTS. We now specify this clearly in the introduction of the revised manuscript.

Eq. 6: this concerns the treatment of path inhomogeneity, which is a very general problem in radiative modelling. Better to have some reference and discussion of the rationale of the weighting choice made, i.e., based on transmission, optical depth, or mass.

Agreed. We added two more equations and the following discussion to the revised manuscript:

"Note that introducing the layer transmittance $\mathbb{T} = e^{-\tau_f(s_{i-1}, s_i)}$ in Eq.(7), it becomes $B_f(T_{MR}) \simeq \frac{B_f(T(s_{i-1})) + B_f(T(s_i))\mathbb{T}}{1+\mathbb{T}}$. Thus, $B_f(T_{MR})$ is the average brightness temperatures at the layer boundaries, weighted by the layer transmittance, going from $B_f(T(s_{i-1}))$ to $\frac{B_f(T(s_{i-1})) + B_f(T(s_i))}{2}$ as the layer gets from totally opaque ($\mathbb{T} = 0$) to totally transparent ($\mathbb{T} = 1$). Other weighting options, such as the so-called linear-in-tau, are used elsewhere (Saunders et al., 2018)."

Line 277: parameterization of absorption is core to any radiation model, which is probably covered too briefly here. For education in particular, such essence as state (temperature, pressure, etc.) dependences of line strength and broadening should be reviewed for the concepts as well as for related computing modules.

We opted for high level description of the atmospheric absorption, as this is continuously evolving in the open literature. Several options are implemented in PyRTlib and referenced in Section 4, but we feel the details are beyond the scope of the manuscript. Following the reviewer's suggestion, we included essential information in the revised manuscript.

Line 286: this is another place where I find the information is too brief. It would also be good to outline plans for cloud property parameterization and multiple scattering radiative transfer solver.

As above, essential information have been included in the revised manuscript. Plans for PyRTlib development are outlined in Section 5, but the implementation of a multiple scattering solver is not planned for the near future.

The paper can use some editing assistance for English, e.g., Line 56: "allow to" => allows consideration of …; "dishomogeneity" => inhomogeneity

Agreed. Thanks for spotting the typos.