GMD-2017-303

Interactive comment on "Comparison of observed and modelled longwave radiation (2010-2016) at the high mountain BSRN Izaña station" by R. D. García et al.

Dr. L. Gross

GMD does not necessary require for a Model evaluation paper to make statements about code availability. This is applied under the assumption that the manuscript is referencing a paper that describes the model being evaluated and that this paper states how to obtain access to the program code of the model. As this does not apply for this manuscript, the authors need to explain how to access the code. As stated in https://www.geoscientific-model-development.net/about/manuscript_types.html for "Model description papers" the preferred option is that authors upload their code and the data as supplement.

Authors: *The authors take into consideration the editor's request.*

However, in this work we present the comparison between measured and simulated longwave downward radiation using two radiative transfer models: LibRadtran and MODTRAN.

The LibRadtran model is freely available on the web: http://www.libradtran.org; Mayer and Kylling (2005). This information has been included in the manuscript Page 6 Line 1-7.

The MODTRAN model is only available under the commercial agreement with Spectral Sciences, Inc. (http://modtran.spectral.com; Berk et al., 2000, 2008, 2013, 2015; Berk and Hawes, 2017).

Since these two models have not been developed by the authors of the paper, it is not possible to add their code.

These models have been extensively described in the following references which were included in the paper.

References:

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3. *Berk, P. Conforti, R. Kennett, T. Perkins, F. Hawes, and J. van den Bosch,* "MODTRAN6: a major upgrade of the MODTRAN radiative transfer code," *Proc. SPIE 9088, Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XX, 90880H (June 13, 2014); doi:10.1117/12.2050433.*
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5. *Berk, A. and Hawes, F.: Validation of MODTRAN® 6 and its line-by-line algorithm, Journal of Quantitative Spectroscopy and Radiative Transfer, 203, 542–556, 2017.*
6. *Mayer, B. and Kylling, A.: Technical note: The libRadtran software package for radiative transfer calculations – description and examples of use, Atmospheric Chemistry and Physics, 5, 1855–1877, https://doi.org/10.5194/acp-5-1855-2005, http://www.atmos-chem-phys.net/5/1855/2005/, 2005.*