

***Interactive comment on “All-sky assimilation of infrared radiances sensitive to mid- and upper-tropospheric moisture and cloud” by Alan J. Geer et al.***

**Anonymous Referee #4**

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This manuscript addresses one of the most highly assessed approaches in field of radiance data assimilation today. It describes in very good details the application and the impact of All-sky approach in data assimilation and on short and medium ranges forecasts. Although the use of infrared data is the focus of this paper, one could get a full overview about the use and performance of the microwave radiances as well. I found this paper very interesting with a lot of details about almost all issues related to clear- and all-sky radiances assimilation. So, I have only few comments, which I believe can further improve the quality of it.

1- Maybe it's not requirement for this journal, but normally the Introduction ends with

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short description about the structure of the manuscript, which I missed here.

2- There are few abbreviations that are not described in the text like for example PDF, ITCZ, TB . . . I think these need to be described either at first use or in a separate part of this paper.

3- You discuss the Figure 5 in page 16 and say that “The simulated brightness temperatures in these five systems are generally warmer than observed, but this is not a general feature of the model.” I couldn't identify (well, I can guess, of course) those systems, please highlight these system with circles, arrow or any pointing technique to make it better understood.

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