

Re-review of “The Frosty Frontier: Redefining the mid-latitude Tropopause using the Relative Humidity over Ice ”

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General

As stated in the first review, this paper reports a novel way of deducing a tropopause using the relative humidity over ice (RHi), which is good. The paper discusses the tropopause in Northern hemisphere mid-latitudes, which is now reflected in the title (and throughout the paper). Overall, the paper has been revised thoroughly.

I also note that focus of the paper is less on the tropopause as a transport barrier (e.g. for N_2O or CH_4) and that the relation of the new tropopause and the thermal (lapse rate) tropopause have been clarified.

I think the authors have adequately replied to the questions and suggestions of reviewer 1 (and also reviewer 2). I suggest that the paper is accepted now (any very small remaining changes can be done in a revised submission).

Minor points

- comment on l. 40: I think the word “artificial”, which is introduced here is too strong; perhaps “picking a particular value of PV” or similar
- comment on l. 59 (former investigations); avoid “z.B.” in the text of the manuscript
- comment on l. 59 (radiation): I am not arguing against radiation here, but some of these arguments could be helpful in the paper as well.