The 2nd review of "Variation of the 630.0 nm airglow emission with meridional neutral wind and neutral temperature around midnight" by Chiang et al.

Summary: The authors have addressed all my previous concerns thoroughly and the content has been improved distinctively. However, the unit of the integrated emission rate sounds incorrect, and the relevant content is blurry. Given the interesting finding in the turning point of the temperature against the volume emission rate, **this work is worth to consider for publication after the substantial revision.**

According to the explanation in Section 4, I am trying to ,the change ($S_{\Delta T}$ and $S_{\Delta W}$) in the integrated emission rate along the altitude h in the temperature and the neutral wind can be write down as below,

$$S_{\Delta T}(h) = R_2(T_2, h) - R_1(T_1, h) = \int_0^h I(T_2, z)dz - \int_0^h I(T_1, z)dz$$

Where R_1 and R_2 are the Integrated emission rate with respect to temperature T_1 and T_2.

$$S_{\Delta W}(h) = R_2(W_2, h) - R_1(W_1, h) = \int_0^h I(W_2, z)dz - \int_0^h I(W_1, z)dz$$

Where R_1 and R_2 are the Integrated emission rate with respect to neutral wind W_1 and W_2.

Combine the both temperatures and neutral winds , the change of the integrated emission rate along the altitude h becomes

$$S_{\Delta T, \Delta W}(h) = R_2(T_2, W_2, h) - R_1(T_1, W_1, h) = \int_0^h I(T_2, W_2, z)dz - \int_0^h I(T_1, W_1, z)dz.$$

Major points:

1. The unit of the change of the integrated emission rate appears to be incorrect. It should be in the same of the volume emission rate (photons/ cm^3/s) multiplied by a length unit, more specifically, km- photons/ cm^3/s.
2. Line 264-267:"The maximum change of the integrated emission rate by increasing the neutral temperature is …… at 145 K. " I am confused by the sentence. As my understanding, Figure 4 (a) is the change of the temperature verses the change of the integrated emission rate. However, the sentence is telling me that it is the change of the integrated emission rate in the certain temperature (145 K). Could you elaborate which parameters are actually compared in Figure 4?
3. If my understanding is correct,
   $$S_{\Delta T}(h) = R_2(T_2, h) - R_1(T_1, h) = \int_0^h I(T_2, z)dz - \int_0^h I(T_1, z)dz$$
   We need a fixed h to make ΔT-S plot, but the authors did not mention any altitude dependence with respect to Figure 4,so this is unclear to me what is the physical meaning of Figure 4?

Minor points:

The authors used S for all the change of the integrated emission rate despite of it is ΔT or ΔW dependent. It is confusing when read it through. I suggest to change the notation in $S_{\Delta T}$, $S_{\Delta W}$ and $S_{\Delta T, \Delta W}$.

End review

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