

***Interactive comment on “Inferring thermospheric composition from ionogram profiles: A calibration with the TIMED spacecraft” by Christopher J. Scott et al.***

**Anonymous Referee #2**

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General Comments: The paper is interesting, informative, and well written. The authors present a procedure to calculate the molecular to atomic ratio from ionosonde data. While the testing of the new procedure is limited to a small number of cases, this procedure can be tested further with GOLD dayside data and then applied on the nightside where GOLD cannot measure neutral composition.

Specific comment: 20 Modelling work by Roble and Dickinson (1989), indicated that the Earth's upper atmosphere would be expected to cool by around 30-40K in response to greenhouse trapping in the lower ionosphere. I think it would be better to say the lower atmosphere instead of the lower ionosphere, in this context.

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Interactive comment on Ann. Geophys. Discuss., <https://doi.org/10.5194/angeo-2019-47>, 2019.

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