

## ***Interactive comment on “Temperature variability and trend estimates at tropopause and UT-LS over a subtropical site: Reunion (20.8° S, 55.5° E)” by N. Bègue et al.***

**Anonymous Referee #2**

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General comments: The subject matter is relevant to the scope of ACP. However, it is not clear why results from this one station are important enough to merit this much attention. The record covers only ~16 years, which is not really enough to analyze ENSO or QBO effects or trends. Sampling of only 2-4 days a month may not be enough for reliable tropospheric temperature monitoring. There is no analysis of temporal homogeneity problems arising from the changes in sonde model described in the paper. The authors do not claim significant correlations for the Indian Ocean relation, and the information about the climatological cycle is not new. For all these reasons, the contents of the paper are not likely to be of great use or interest to the typical reader. Although the presentation is generally well-organized and clear, the paper also needs a careful

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edit to correct grammatical errors and awkward sentences.

Specific comments:

The abstract is a bit confusing.

P. 10114, lines 10-15: How is the IOD influence “as a result” of what is said before?

p. 10114, lines 15-16: These correlations are not likely to be significant.

P. 10114, lines 16-18: The sentence beginning “In addition” is unclear.

P. 10114, last sentence in abstract: It is not clear that the effect of the IOD is statistically significant; the conclusion is very weak.

P. 10116, lines 1-2 and several later places: There are more recent publications on trends in the UT/LS, such as the SPARC temperature trends report, Randel et al. (2009).

P. 10118, line 16: The measurements are not really homogeneous given the change from RS-80 to RS-90.

Page 10123, lines 25-28: 12% does not seem all that important, and there is no indication that this influence is statistically significant.

P. 10128, first line: Again, statistical significance of the difference in trend?

Technical corrections:

I have not attempted to correct the numerous errors of grammar and syntax.

Page 10120, line 12: Should read “Southern Oscillation index”?

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