

Reviewer Comment

10.5194/acp-2015-988 (Editor - Rolf Müller) *Atmos. Chem. Phys. Discuss.*

'Effect of tropical cyclones on the Stratosphere-Troposphere Exchange observed using satellite observations over north Indian Ocean'

General comments:

The paper is much better elaborated as before, however there are two important issues that I recommend to improve.

1) Figure 7:

You wrote: *Kindly note that the diagram shown in the figure 6 (now figure 7) is a typical structure of the cyclone but not exactly what we observed in the Figures 3 or 4.*

In that case some references related to Fig. 7 (e.g. adapted from ...) should be added which show the typical structure of a cyclone. Further, the differences between your results and the typical structure of a cyclone have to be discussed.

2) MLS Data for figures 4 and 5

In your first comment you wrote on page 3, line 116-118:

p. 6, line 135: Please add the precise time period for pre- and post-monsoon season and explain why you exclude the monsoon season.

Reply: Added in the revised manuscript. We also included monsoon season.

In your second comment you wrote on page 1, line 27-34

Further, you have added more observations and you have nicely provided background information in tables. However, the central figures 3 and 4 seem

unchanged. Is this true? Or do you have to update the figures after the inclusion of the new data?

Reply: Kindly note that we have used same data set in the current version of the manuscript. Please go through Table 1 where we have mentioned all the cyclones during our initial submission itself. Thus, there is no change in the data set used in the current version and old version. Only difference is we show them according to the season in the revised manuscript.

If I understand you right, the monsoon cases were already used in the Figures 4 and 5 of the ACPD version and only the text was imprecisely formulated in the ACPD version. In the ACPD version, only tropical cyclones in the pre- and post-monsoon season were mentioned in the text suggesting that tropical cyclones during monsoon season are not included in Fig. 4 and 5. Therefore I am wondering that Figure 4 and 5 are the same because I thought in the ACPD version tropical cyclones during monsoon season are not considered. Please clarify this issue.