

## **Response to the short comment from Dr. CBS Dutt**

We are thankful towards Dr. CBS Dutt for providing a comprehensive review of our manuscript, for the positive recommendation and valuable suggestions. The specific comments from Dr. CBS Dutt are shown below in red font and our responses to these are given below in black font.

**Comment 1. However very minor suggestion is to provide a X, Y plot from 2009-2013 for five years along with error bars; though whisker plots are given. This will be made year wise clarity.**

The box-whisker representations of monthly RMS differences between the outgoing radiative fluxes (shortwave) at Top of Atmosphere (TOA) estimated using the assimilated / satellite aerosol datasets and the CERES measurements (CERES-SSF product) (Figure 8, Page No. 16) at annual as well as seasonal level, provide a comprehensive information of the pertinent statistical details; such as mean, median and the 5<sup>th</sup>, 25<sup>th</sup>, 50<sup>th</sup>, 75<sup>th</sup> and 95<sup>th</sup> percentiles. If converted to X-Y plots some of these statistical information would be lost.

The box-whisker representations provided in Figure 8, Page No. 16 have clearly demonstrated that the RMS differences between the TOA fluxes estimated using the assimilated data and CERES measurements are significantly smaller (at 95 % confidence level) than those between TOA fluxes corresponding to satellite data and CERES measurements at annual as well as seasonal scales during the period of 5 years (2009-2013). We agree with the reviewer that the year-wise comparison of the differences between the estimated and measured radiative fluxes would bring more clarity. However, the year-wise separation of this data substantially reduces the number of data points available for the comparison resulting in weakening of statistical significance of the result. Nonetheless, the year-wise comparisons as suggested by the reviewer would be possible in future with the availability of assimilated aerosol products for sufficiently longer time durations. On the background of this, the year-wise X-Y plots are not included.

**Comment 2. Typo issues at : 4.3: line 15 (2009); 4.1 : line 19 (used)**

Thanks a lot for pointing out these typo issues. We have corrected these on Page No. 18, Line No. 19 and Page No. 7, Line No. 24 in the revised manuscript.