

Review of revised manuscript, “Relationship between Asian monsoon strength and transport of surface aerosols to the Asian Tropopause Aerosol Layer (ATAL): Interannual variability and decadal changes” by Cheng Yuan et al.

I appreciate that the authors have addressed all my original comments and revised the manuscript. Out of the four comments, two of them still need to be considered or better explained:

- a) Definition of “strong” and “weak” monsoon years: I think the authors may have misunderstood my concerns. I have no problem to use the precipitation amount as an indicator for Asian summer monsoon strength. In that regard, the precipitation amount, or the anomaly of the precipitation amount, should be used as a measure for the monsoon strength, rather than the “detrend” anomaly. For example, why is 2015 a weaker monsoon year than 2002 even though the precipitation amount in 2015 is about 2.3 mm/day more than that in 2002?
- b) Model evaluation with data: In the response (page 7, line 233-239), the authors said that the MLS CO data record is too short to have enough samples of SM and WM years. But my point was not to use the MLS CO data for SM and WM contrast, but for comparisons with the model interannual variabilities and UTLs CO magnitude. Besides, the MLS CO data record (11.5 years) is only 3.5 years shorter than the MERRA2 results (15 years) used in this study. In addition to CO, the precipitation from MERRA2 (which is not a reanalysis either) can also be compared with satellite data such as TRMM (shown in the response). Clearly, MERRA2 precipitation trend are much larger than the TRMM trend by almost a factor of 5! These comparisons should be shown in the paper (or supplement if appropriate) to let the readers have some ideas about the MERRA2 products.