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Interactive comment on "The Indian summer monsoon rainfall: interplay of coupled dynamics, radiation and cloud microphysics" *by* P. K. Patra et al.

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First of all we would like to thank the reviewer for appreciating our results, and also for his comments during the first phase of technical review. We feel some modelling results (e.g. Takemura et al., 2005) have obtained supportive evidences for our study. As suggested by the other reviewer, the modelling of a fully coupled system including aerosols is complex. Certainly more research are needed in that respect.

On specific comments:

1. We will add some discussion on SST anomaly plot (mainly showing the phase and amplitude of El Nino Southern Oscillation) in the revised manuscript.

2. Actually, Figure S3 is produced for showing both the interannual variability in biomass burning and the interannual variability in the dynamical system (interannual variability in ATSR hot spots is not very large). This also indicates the direction of transport for the aerosol sources in the Gulf region and northern Africa. The CO-tracers indicate only the net results.

3. This statement will be modified during this revision for better clarity and readability. See also the discussion above on comment#2. We think, there is a misunderstanding here. The CO-tracer values are shown as contour lines. Note higher CO-tracer values in June 2003 and July 2002 compared to those in June 2002 and July 2003, respectively, over the Indian region (in particular over the northern-western India). We believe, since the ISMR values are not very large in June over the NW India (less than 50 mm/month; see Figure S4, top panels), probably the effect of aerosols on ISMR are not distinct overall. Nevertheless, some influence of higher aerosol column for reducing ISMR can be seen during the month of June in the NW India region (Figure 4).

4. We shall define 5-point mean in the legend of Figure 1.

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