

Interactive comment on “Polycyclic aromatic hydrocarbons (PAHs) in aerosols over the central Himalayas along two south-north transects” by Peng Fei Chen et al.

Anonymous Referee #2

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General Comments

This is an interesting manuscript dealing with the measurement of particulate PAH concentrations in the Himalayan region across two transects going from Nepal into China Tibetan plateau. The manuscript has new collected data that permits further insights into the background contamination of Himalayan region and the long distance transport of particulate PAH pollution from the Indian subcontinent. In my opinion (from a non-born English speaker) the quality of the English in the paper needs to be improved. In the text there are some sections that also need improvement. Section 3.1 about the spatial distribution and seasonal trend of TSP and PAH concentrations is presented in a confusing way and some of the declarations about spatial and seasonal

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trends are not evident when compared with concentration data in Tables and Figures. For example in lines 15-21, page 9, there is the statement of a seasonal variation of concentrations which seems to be contradicted by ANOVA tests. On lines 7-10, page 10, it is concluded that there is an increase in concentrations during the non-monsoon season which, at least for TSP, is not evident from inspection of Figure 2. Section 3.4 concerning the estimation of dry deposition fluxes also needs improvement. Why there was a choice of a dry deposition velocity of 1.4 cm/s for calculating the PAH dry deposition fluxes, when there is a so large variability in measured fluxes? Is it an average of bibliographic data?

Specific Comments

Figure 1. The background site in China it is expressed as Nielamu while in the text the local is referred as Nyalam – correct! Abstract- IGP is only defined lately in the text. Introduce definition here. Page 6 line 15-20 – Define the size cutting characteristics of the TSP cyclone Page 8, line 7- change “bland” to “blank” Page 9, line 13- change “pomara” into “Pomara” Page 9, line 16- change “variation” to “variations” Page 11, line 6- define POPs, HCBs and PCBs Page 12, line 6- change “continents” to “emission sources” Page 13, line 14- this is an estimation/calculation and not a measurement. Figure 4- The site Bode with data taken from Chen et al., (2015) is presented in the figure but not discussed in the text. Please discuss.

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