

Interactive comment on “Polycyclic aromatic hydrocarbons in the atmosphere of two French alpine valleys: Temporal trends and examination of sources” by N. Marchand et al.

Anonymous Referee #1

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The manuscript does not contain material, which could be considered as very novel or original. The interest of this manuscript is the fact that the information on the Paths concentrations were measured concurrently with other pollutants (e.g. NO_x, O₃, PM₁₀) after the re-opening of Mont-Blanc. However, the manuscript does not provide sufficient information to consider the interpretations the authors present. Please consider the following specific remarks:

- 1) The manuscript is very long in relation to the reported information. The authors in revised version should dramatically reduce the length of the manuscript.
- 2) The authors do not cite or use information (see "Introduction" and "Results and Discussion" sections) from recent studies on PAH source apportionment (e.g. Kavouras

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et al., 2001, Environ. Sci. Technol. 35, p. 2288), use of molecular diagnostic parameters for the reconciliation of PAH occurrence with emission sources (e.g. Yunker et al., 2002, Org. Geochem. 33, p. 489), and artifacts occurring during PAH "hi-vol" collection (Tsapakis et al., 2003, Atm. Env. 37, p. 4935) and possibly influencing measured atmospheric levels and subsequently the interpretation on the reported data.

3) Section 3. (p. 6) is useless and the authors could use some of its content in the discussion of results.

4) I am not sure that the authors provide the number of samples they collected to measure all the parameters they report. This information should be provided in Table 2 for all parameters (PAHs, PM10 etc.).

5) Throughout section 4. ("Results and Discussion") not a number concerning ratios of concentrations or concentrations is given! The authors would really help any future reader if they report the above mentioned figures in their txt with reference to the corresponding Tables and Figures!!!

6) For the data the authors report in their manuscript there is an over interpretation of the results. The interesting point of this study is the correlation between some atmospheric pollutants (EC, PM10) with PAHs, even if the number of samples is quite low (for PAHs).

7) In "Conclusions", the authors overstate their finding if one considers the low number of samples they used for source apportionment.

Interactive comment on Atmos. Chem. Phys. Discuss., 4, 887, 2004.

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