

## ***Interactive comment on “Evolution of organic and inorganic components of aerosol during a Saharan dust episode observed in the French Alps” by G. Aymoz et al.***

**Anonymous Referee #1**

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### General comments

The manuscript shows results of a Saharan dust event, observed in the Maurienne Valley, France. Detailed data on PM<sub>10</sub>, particle numbers, ionic species and EC and OC are presented.

Based on the results, the author has split the overall period in two episodes, the dust event and a following pollution event. No evidence for large interactions between the dust particles and sulfates, nitrates or with organics were found. The results of model calculations of the adsorption processes are shown to be consistent with the low determined sulphate-, nitrate- and organic-concentrations on the dust particles.

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I do not agree with all conclusions of the authors (see specific comments), but I recommend the paper for publication after some suggested revisions and cuts.

#### Specific comments

-The method to identify the content of mineral dust by the measurement of soluble calcium can be problematic. There are a lot of different sources for soluble calcium besides mineral dust. I expect at least some quotations on this point. If the author uses this method, it will be necessary to be very careful with the interpretation of the results.

-It is outlined in the paper that different determined elemental concentrations or ratios match the Saharan dust. But it is also outlined that these values change during the dust event. So which values were used to identify Saharan dust at which time of the event?

- In my opinion the sections on page 3883 and 3887-3891 have to be shortened. In some parts of these sections too much results of other papers are shown. Furthermore, some results, which are linked with large uncertainties, are discussed too extensively.

#### Technical corrections

Page 3879: correct §Several sampling were maintained§

Page 3879: correct: §Flows rates§

Page 3880: instead §physical characteristics (size and mass)§ only §size and mass§

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Interactive comment on Atmos. Chem. Phys. Discuss., 4, 3875, 2004.

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