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Interactive comment on “The Finokalia Aerosol Measurement Experiment – 2008 (FAME-08): an overview” by M. Pikridas et al.

Anonymous Referee #2

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General

In this paper, a general overview of a major aerosol measurement field campaign is presented. The paper, while rather descriptive, provides potentially important information that should be published. Before acceptance in ACP, the authors should carefully address the following comments and questions.

Scientific comments

Page 6650-51: It remains unclear for the reader how the five source regions have been defined from trajectories, especially when the source areas are of very different geographical extent (e.g. Athens vs. other continental regions). Please add a few explanatory lines on this.

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Page 6652: It is stated that air mass origin was related to temperature and RH only in case of Africa. What is the actual meaning of this statement?

Page 6656: The information given in section 5.6 is totally useless as presented in current form. This section should either be removed altogether or, alternatively, more quantitative information on the aerosol water content should be provided.

It is a pity that the measurement results are not compared to other measurements conducted over Europe (or elsewhere) in any way. A very brief comparison of at least the following quantities would be very interesting: PM mass concentration and related mass balance, CI deficit in sea-salt particles, OC/EC ratio, WSOC fraction of OC, and particle number concentration.

Page 6658: What do the authors mean by "retroplumes"?

In their present form, conclusions made on page 6658 are pretty thin. The authors should put a bit more effort to summary the main scientific findings related to these measurements.

Technical issues

The general structure of the paper should be improved/modified. First, I do not really think that 6-line site description deserves a section of its own (section 2). This information would fit much better into section 4 before introducing the instrumentation. Second, the authors might consider presenting the program objectives (section 3) already in introduction (section 1). Third, both the end of section 4 (source region analysis) and beginning of section 5 (statistical analysis) contain material that does not really fit with the title of these sections. Clearly, this material would be under the title: data analysis. One general solution for the above problems could be to have 3 sub-sections under FAME-08 measurements: i) Site description, ii) Instrumentation, and iii) Data analyses.

Page 6649, line 7: "PM size distribution" gives usually an impression of a mass size distribution, so it is a bit strange that this term is used as a synonym to the particle

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number size distribution.

Page 6649, lines 8-9: AIS measures the number size distribution of charged particles, not that of total particles like SMPS does. Please add this information into the text.

Page 6656, line 11: "that period"? What time frame are the authors referring to?

Page 6658, line 13: should be "average ozone concentration".

Interactive comment on Atmos. Chem. Phys. Discuss., 10, 6641, 2010.

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