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Interactive comment on “Characterization of PM₁₀ sources in the central Mediterranean” by G. Calzolai et al.

Anonymous Referee #2

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The manuscript reports the result of a quite long PM sampling campaign in the Lampedusa island. This is a peculiar site in a very good position to extract data representative of the Mediterranean basin. In general the article is well written, the results are sound and the methodologies clearly described. I agree with Referee 1 when he/she notes on the possible impact of the missing information on carbonaceous aerosols and I also recommend a more deep analysis of the uncertainties both in the PMF results and in the chemical apportionment directly derived by raw concentration data (for instance: how reliable are the average correction factors used to obtain by PIXE concentration values for light elements? From sample to sample and according to the size distribution of the aerosol they could vary significantly). On the PMF side whatever is the used approach an evaluation on the uncertainty is missing and must be added. The com-

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parison between sea salt concentration determined by PMF and by raw data and the discussion on the reason of the quite large discrepancy is questionable. The literature on the PM composition in the open Mediterranean sea is quite limited but for instance in Schembri et al., *Atmospheric Environment* 98 (2014) 510-518 the PMF results for sea salt are quite different and some discussion/comment on this issue sgould be deserved (also because part of the Authors also signed that paper).

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 15, 20013, 2015.

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15, C6264–C6265, 2015

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