

## ***Interactive comment on “Source apportionment of atmospheric aerosol in a marine dusty environment by Ionic/composition Mass Balance (IMB)” by João Cardoso et al.***

**Anonymous Referee #2**

Received and published: 19 March 2018

Some improvements have been made in this revised version and I recommend publication in ACP. The paper reported the development of mass balance models for source apportionment of aerosol particles and the models were compared with PMF model. Results showed good agreements between the two models. I have following questions about the ionic mass balance (IMB) model as highlighted below.

(1) Is that possible to compare the mass balanced model developed in the present study with previous works, such as Malm et al., 1994 (JGR, 99, 1347), and other mass balance model thereby to further demonstrate the usefulness of new model. (2) I would suggest to add some discussions about the robustness of the new IMB model

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as compared with PMF. (3) Authors mentioned uncertainties in multivariate methods, such as PMF, are there any uncertainties in IMB model developed and applied in this study?

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Interactive comment on Atmos. Chem. Phys. Discuss., <https://doi.org/10.5194/acp-2018-10>, 2018.

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