

Interactive comment on “Aerosol properties over the western Mediterranean Basin: temporal and spatial variability” by H. Lyamani et al.

Anonymous Referee #2

Received and published: 16 September 2014

Aerosol properties over the western Mediterranean Basin: temporal and spatial variability by H. Lyamani et al.

General comments The main objective of this manuscript is the analysis of AERONET sun photometer data collected at a small island in the western Mediterranean; the analysis is further extended to comparisons with other adjacent stations and with ship borne data from the Maritime Aerosol Network, and a final section includes an approach to the "Evaluation of the impacts of the European ship emission regulations on the atmospheric columnar aerosol properties"

I have to say that I agree with the main comments made by Referee #1 which should be carefully taken into account by the authors. Therefore I just include a set of more

C7116

specific comments to be addressed by the authors. After the appropriate revisions requested, in my opinion this manuscript will be apt for being published on ACP.

Specific comments P 21524 - L 2 – Just to say that the acronym “AERONET” is never defined in the manuscript P 21524 - L 6 – The aerosol load over. . . P 21524 - L 18/19 – shows that no significant changes in columnar aerosol loads were observed at this site, since the European Directive on ship emissions was implemented in 2010. P 21525 - L 7 – . . .the most accurate one for the retrieval. . . P 21525 - L 10 – However, the quantification. . . P 21525 - L 23 – . . .lacks of continuous. . . P 21526 - L 25 – I would include a comma after “(ROA)”. P 21526 - L 26 – substitute “;” by a comma. P 21528 - L 3 – hinted from size distributions. P 21528 - L 5 – I would remove “investigate”. P 21529 - L 5 – low pressure systems. P 21529 - L 20 – Use Å. P 21529 - L 21 – Use Å. P 21529 - L 22 – Use Å. P 21530 - L 4 – . . .and island sites, respectively, and have. . . P 21530 - L 14 – “ship borne” instead of “ship”? P 21530 - L 28 – The authors stated that CDC1 Meteorological data was used, but in figures 3 and 4 GDAS was used instead. P 21531 - L 18 – larger wavelengths. P 21536 - L 6/7 – Remove “On other hand,”

P 21532 - L 9 – “. . .open oceanic areas not affected by long-range aerosol transport” –this gives the impression to the reader that these regions are never affected by long-range aerosol transport, which, I believe, is not always true. P 21532 - L 21 – I suggest to displace the parenthesis to the end of the sentence. P 21539 - L 21 – Where is Fig 7c?. Please correct. Besides, if we look to figure 7 one can find “(a)” in the upper but no “(b)” can be found. The authors may either remove one or include the other. P 21540 - L 1 – was associated. P 21540 - L 11 – consider changing “fell” to “decreased” or “diminished”. Small issue. P 21541 - L 14 – Use Å P 21541 - L 20 – over these areas, while Alborán Island. P 21541 - L 21 – “This can explain” or “This explains”. P 21543 - L 13/14 – A suggestion: “and three adjacent sites in the western Mediterranean”. P 21543 - L 20 – “for the entire period” can be removed. P 21544 - L 9/10 – was comparable to the observations over the. . . P 21544 - L 12 – A northward decrease in. . . P 21544 - L 17 – A suggestion: “. . .showed large variability and no evident pattern

C7117

was discernible/found.”

• The spelling of "Ångström" is always incorrect. Please revise that. • Maybe figure 6 should include information about the other stations besides Málaga. • In figure 2, both the legend and the "(a)" are not so well placed. • Caption of figure 2 – "Å" instead of "A". • Figure 3 caption – correct "Angstrom". • Figure 4 caption – correct "Angstrom".

Interactive comment on Atmos. Chem. Phys. Discuss., 14, 21523, 2014.

C7118