

Interactive
Comment

Interactive comment on “Relationships between columnar aerosol optical properties and surface particulate matter observations in north-central Spain from long-term records (2003–2011)” by Y. S. Bennouna et al.

Anonymous Referee #1

Received and published: 2 July 2014

General comments:

The paper presents analysis of EMEP PM and AERONET AOD datasets to discuss the occurrence of dust events in the north-central area of Spain. The analysis is thorough but not convincing. The influence of dust on the variability of ground or column aerosol concentration is more speculative than clearly demonstrated. I agree with reviewer 1 that lidar data should be used to investigate the relationship between AOD and PM ground concentration. Also, some AERONET inversion products such as size distribu-

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper



tion or asymmetry parameter could give insights into potential dust intrusion over this area. Also, larger scale data from satellite sensors could give some information on the south-north dust gradient.

Specific comments:

P5830 L24-25: Health impact of particles also depends on their chemical composition.

Figure 2: PM10 and AOD variations are sometimes anti-correlated. Why ?

P5842 L7-15: Inversion of the slope is not clear.

P5842 L19-23: the methodology used to detect dust intrusion should be detailed.

P5843 L1-3: Please add some explanations for the correlation between NAO index and PM trend

P5846 L16-18: How this classification has been obtained ?

P5848 L11-14: An illustration with a case study could be useful.

Interactive comment on Atmos. Meas. Tech. Discuss., 7, 5829, 2014.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper