

## ***Interactive comment on “Temporal variability of mineral dust concentrations over West Africa: analyses of a pluriannual monitoring from the AMMA Sahelian Dust Transect” by B. Marticorena et al.***

**Anonymous Referee #2**

Received and published: 16 May 2010

General Comments:

This paper describes the characteristics of the temporal variability of dust concentration over West Africa by using the three-year surface observations deployed over the region. The temporal variability is examined from various time scales ranging from diurnal to annual periods. The present version of the manuscript has been significantly improved from the initial manuscript which I also reviewed. The paper is well organized and well described to demonstrate the temporal variability of dust concentration over the region. However, this paper is not particularly new in that sense that its originality and

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the scientific interest on dust concentration variability are fair. For example, this type of measurements and observational analyses has already been done for cases over other desert regions such as those in East Asian deserts, as the authors mention the references in the present paper. What is significant in the paper is that the results of the long-term field measurements are demonstrated and described. This kind of observational evidence is a positive aspect of the present work. In this sense, I will be happy to see this paper published in the journal. I have only minor comments, which should be easily incorporated in the revision. Please see the specific comments below.

Specific Comments:

1. There are numerous typographical and/or spelling errors in the manuscript. For example, Sahelian Dust Transect, which is abbreviated as SDT, seems to be referred to as STD in many places. “Eat” in the third paragraph on page 8056 should be “east”. In addition, the initial words for the directions should not be capitalized. This type of errors is seen elsewhere. “Over passed” in the second line from the bottom on page 8072 should be “overpassed”. “Indexes” in line 5 from the bottom on page 8073 should be “indices”. You do not need “the” before the date (for example, the 7 June in line 2 on page 8075, the 7 June in line 3 on page 8076, and so on).
2. In lines 7-5 from the bottom on page 8063, the authors explain that the PM10 concentrations in Sahara are lower than those in the Sahelian stations, owing to the relative locations from the source regions. I am confused with this description. It seems to me that the Saharan locations are much nearer than those in the three Sahelian points (which are examined in the present paper). Could you explain why on this point?
3. In line 3 on page 8065. The unit of water vapor content should be mg per cubic meters.

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Interactive comment on Atmos. Chem. Phys. Discuss., 10, 8051, 2010.

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