

Interactive comment on “The sensitivity of the colour of dust in MSG-SEVIRI Desert Dust infrared composite imagery to surface and atmospheric conditions” by Jamie R. Banks et al.

Anonymous Referee #1

Received and published: 12 February 2019

Review

Title: “The sensitivity of the colour of dust in MSG-SEVIRI desert dust infrared composite imagery to surface and atmospheric conditions”

I found this work very interesting. I believe it is a notable contribution to the dust detection over the African desert using thermal infrared information from meteorological satellites. It is well written, the physical explanation of your findings is analytic and the main conclusions are very useful for the potential readers and the relative scientific community.

General comments 1. There is no relative information about the spatiotemporal correlation between COSMO-MUSCAT simulations and SEVIRI pixel data. How you combine these data and how you overcame the different spatial resolution of the compared data sets?

2. Do you believe that your results (Figure 7) can be applicable in other regions inside the Meteosat domain (e.g the European side of the Mediterranean, where dust transportation from Sahara, occurs?). Please describe your analytic opinion in the document.

Specific comments – Page 4 (Equations 1-3): Please, refer that the variables “Min” and “Max” represent Brightness Temperature (BT) values. Also, describe how these variables obtain their values because it is not clear (last paragraph of the section 2.1) mainly when you refer that there is a case that BT can be larger than the maximum values (page 4, lines 14-20, just below the relative equations).

– Table 3 and Table 4: Please, refer what represent the values of the columns with the SEVIRI spectral channel centers (98.7, 10.8, 12.0 μm) and which is the unit (it is not clear). Please, check anywhere else may also needed.

Interactive comment on Atmos. Chem. Phys. Discuss., https://doi.org/10.5194/acp-2018-1238, 2019.