

Interactive comment on “Some ice nucleation characteristics of Asian and Saharan desert dust” by P. R. Field et al.

P. R. Field et al.

Received and published: 22 May 2006

We thank the reviewer for their comments and suggestions. Here are our point-by-point responses.

1. Fixed and included reference
2. Fixed - yes, 1.6.
3. There appears to be no variation with cooling rate as emphasised in the companion paper, Mohler et al.
4. Bailey and Hallett (2004, QJRMS) find that rosettes are only formed at $T < -40^{\circ}\text{C}$. Added text and reference to that effect. 'Again, CPI imagery for this experiment in figure 5 shows rosette-like habits, although the coldest temperature attained during this experiment was only -32°C . Bailey and Hallett (2004) find in laboratory crystal growth

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper

experiments that bullet rosettes are not formed at temperatures warmer than -40°C , therefore these crystals may be some other type of polycrystal habit. Although, it should be noted that habit discrimination using the CPI is difficult for particles of this size. '

5. Fixed - see 3.

6. Changed.

7. We've included the Zuberi curve (dashed line).

8. Yes, we have added a statement to that effect into the discussion. 'There is also the possibility that contact freezing is occurring, but we feel that the rate of production of ice that accompanies the droplet production is too rapid and the numbers of aerosol that have not been activated as droplets are too low for this mode to be important (e.g. Cotton and Field, 2002).'

Interactive comment on Atmos. Chem. Phys. Discuss., 6, 1509, 2006.

Full Screen / Esc

Printer-friendly Version

Interactive Discussion

Discussion Paper