

Interactive comment on “Large Asian dust layers continuously reached North America in April 2010” by I. Uno et al.

Anonymous Referee #2

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The authors present the results of simulation of large Asian dust layers and their validation by CALIPSO satellite data. They concluded that the large dust layers are related to the Arctic oscillation, the strong stable westerlies, as well as the negative and positive pressure anomalies. The paper is well organized and written. It can be published in ACP journal with some minor modifications.

Specific Comments

Introduction

Page 12253, line 9: “anomalous” should be “anomaly”

Observation data and dust transport model

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Interactive Discussion

Discussion Paper



Page 12253, lines 21&22: it's not clear why the authors chose the lidar ratio as 35sr and the inversion height as 14 km in the paper. Please give a brief explanation for choosing the lidar ratio as 35sr and the inversion height as 14km in the context of this paper.

Page 12255, line 2: delete “, which”

Results and discussion

Page 12255, line 6: “asian” should be “Asian”. Also, the multiple Asian dust layers have been reported by [Su and Toon, 2011], ACP paper, which may be referred or compared in the paper.

Su, L., and O. B. Toon (2011), Saharan and Asian dust: similarities and differences determined by CALIPSO, AERONET, and a coupled climate-aerosol microphysical model, *Atmos. Chem. Phys.*, 11, 3263-3280, doi:10.5194/acp-11-3263-2011.

Page12257, lines 10-15: Do these high or low centers have specific names? Such as North Pacific High or Aleutian Low, etc.?

Interactive comment on *Atmos. Chem. Phys. Discuss.*, 11, 12251, 2011.

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