

Interactive comment on “CUACE/Dust – an integrated system of observation and modeling systems for operational dust forecasting in Asia” by S. L. Gong and X. Y. Zhang

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The authors describe major components of CUACE/Dust -the integrated dust observation/modelling system developed to provide operational monitoring of dust storm process in East Asia. The manuscript summarizes developments and results on CUACE/Dust, published in the special ACP issue. The paper reviews both scientific and technical backgrounds of the system. In the section on challenges in future developments, the authors nicely put CUACE plans into a wider, more general context if dust modelling. The manuscript thus represent excellent introduction to the special ACP issue. I wish to comment the following two issues of the paper: One relates to the

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question of dust data assimilation. CUACE/Dust assimilation system is based on satellite horizontal data and surface observations. The authors report on improvements of the operational forecasts when the assimilation is applied. However, lidar data, satellite- or ground based, providing the third dimension are not yet used operationally. AD-Net is probably closest to operations. Are there any concrete plans to incorporate this data into CUACE/Dust? I suggest authors to point out more explicitly the key importance of using the vertical component of dust observing systems, indicating that lack of routine use of such data still limits more accurate initialization of dust models. Please also reference to the work of Japanese scientists (e.g. Yumimoto, Uno) concerning their developments in assimilating of AD-Net data. The second comment: The name of the system - CUACE/Dust (Chinese Unified Atmospheric Chemistry Environment for Dust) indicates the atmospheric chemistry aspect of the system. I suggest authors to briefly elaborate what kind of the research and operations it addresses on.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 10323, 2007.

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