Geophysical Research Abstracts
Vol. 13, EGU2011-1539, 2011
EGU General Assembly 2011


# Analysis and numerical simulation on a server air pollution episode in Pearl River Delta Region, China

Qi Fan (1), Wei Yu (1), Xuyu Luo (1), Shaojia Fan (1), Yerong Feng (2), and Ruiquan Feng (3)

(1) Sun yat-sen University, Guangzhou,China, (eesfq@mail.sysu.edu.cn), (2) GuangZhou central meteorological Bureau, Guangzhou, China, yerong_feng@yahoo.com, (3) Macao Meteorological and Geophysical Bureau, Macao, China, skfong@smg.gov.mo

In recent years, China's environmental pollution is more and more serious, as PM10 is the main factor of air pollution in China's fast-developing cities, and the regional pollution situation in Pearl River Delta (PRD) region is getting more obvious. In this study, the meteorological and chemical fields of a server air pollution episode occurred in PRD in November 2009 were analyzed by MM5/SMOKE/CMAQ models. The analysis showed that there were two peaks of air pollution index (API) and PM10 concentrations from November 22 to November 30, one was occurred on 25 Nov and the other was on 28 Nov. The model prediction was validated with measurements in PRD during the high PM10 episode days. The maxima of SO2, $NO_x$ $and PM10 were mainly located in the south and west of PRD. The comparison between the calculated visibilities in several$
$local emissions played different role in these two air pollution processes. The maximum of PM on 25 Nov was more affected by$