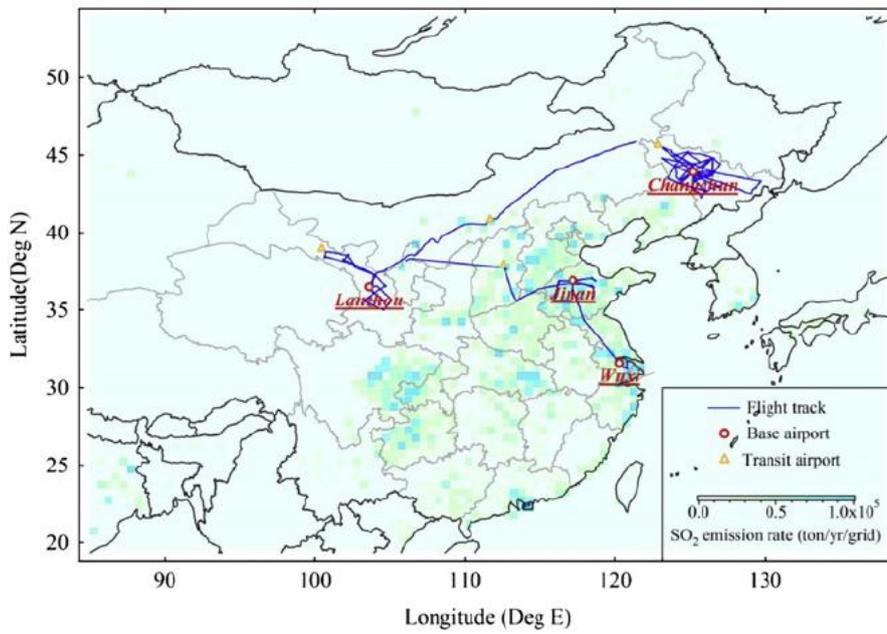
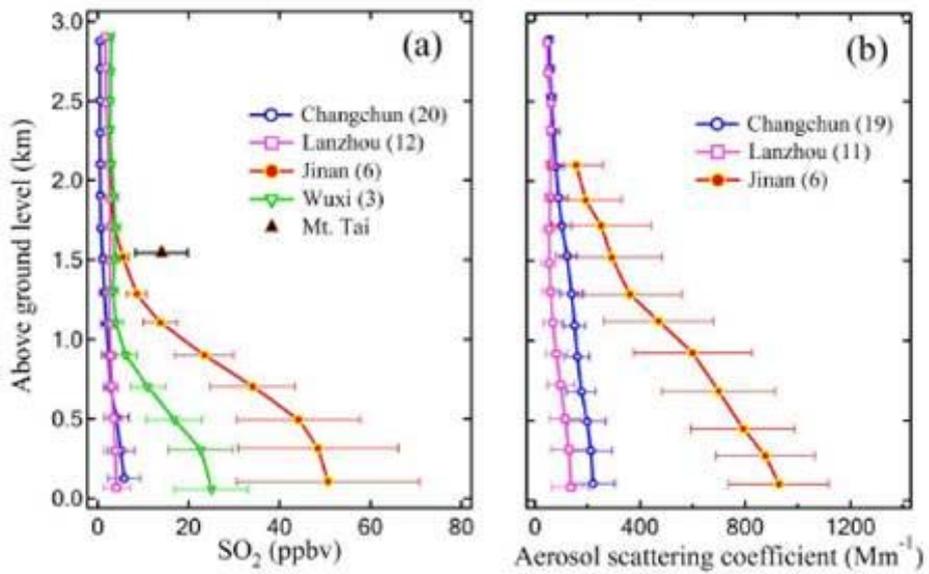


### Aircraft study in China



[Map showing flight tracks and anthropogenic SO<sub>2</sub> emission rates over China.](#)



[Mean vertical profile of SO<sub>2</sub> and scattering coefficient.](#)



### Members of aircraft study

As part of a large acid-rain research project of China's National Basic Research Program ('973 programme), aircraft campaigns were conducted in summer and autumn 2007 in several regions of China to improve the understanding of vertical exchange/transport processes and to evaluate satellite retrieval algorithms as well as regional transport. The study regions included the northeast (NE), which is China's major agricultural base, the northwest (NW), which is sparsely populated and has an arid and semi-arid climate, and the central-eastern (CE) region, which is the largest flat area and thus the most populated and heavily industrialized region of China.

The study was carried out in collaboration with Shandong University, Chinese Research Academy of Environmental Sciences, Institute of Atmospheric Physics of the Chinese Academy of Sciences, and Jilin Weather Modification Office.

### **The results show:**

- (1) the important role of the Warm Conveyor Belt in transporting pollution from the North China Plains to the northeast China and regions further downwind during summer (Ding et al., 2009) and
- (2) Satellite OMI SO<sub>2</sub> retrieval may underestimate the SO<sub>2</sub> column in heavily polluted central-eastern region of China (Xue et al., 2010).

### **Related References:**

1. Ding, A. J., **T. Wang** \*, L. K. Xue, J. Gao, A. Stohl, H. C. Lei, D. Z. Jin, Y. Ren, X. Z. Wang, X. L. Wei, Y. B. Qi, J. Liu, and X. Q. Zhang. "Transport of North China Air Pollution by Midlatitude Cyclones: Case Study of Aircraft Measurements in Summer 2007 (Vol 114, D08304, 2007)." *Journal of Geophysical Research-Atmospheres* 114 (Jun 2009): 1.  
<http://dx.doi.org/10.1029/2009jd012339>.
2. Xue, L. K., A. J. Ding, J. Gao, **T. Wang** \*, W. X. Wang, X. Z. Wang, H. C. Lei, D. Z. Jin, and Y. B. Qi. "Aircraft Measurements of the Vertical Distribution of Sulfur Dioxide and Aerosol Scattering Coefficient in China." *Atmospheric Environment* 44, no. 2 (Jan 2010): 278-82.  
<http://dx.doi.org/10.1016/j.atmosenv.2009.10.026>.

