## **Abstract Details**

<u>AOGS 1st Annual Meeting</u> > <u>Ocean and Atmospheres</u> > Resubmit (OA3) A Study of Long-Ra Transport of Asian Dust and Air Pollutants to Taiwan >

Corresponding Author : Prof. Shaw Liu (<u>shawliu@earth.sinica.edu.tw</u>)

Organization: Academia Sinica (RCEC)

Category: Ocean and Atmospheres

Paper ID: 57-00A-A1347

**Title:** Resubmit (OA3) A Study of Long-Range Transport of Asian Dust and Pollutants to Taiwan

## **Abstract:**

Dust storms and long-range transport of pollutants are major enviror concerns of Taiwan during the winter monsoon season when northeas winds prevail following passages of cold fronts. To quantify the impac quality, we developed an objective method to classify and study the le range transport processes by examining the frontal passages in two representative years. We have found that there is about one frontal p per week in winter and spring, consistent with the climatological aver The long-range transport events are classified into three types accord their degrees of impact on levels of dusts and air pollutants in Taiwan namely dust storms (DS), long-range transport with pollutants (FP), a long-range transport of background air masses (BG). DS cases occurr % of the time and had a large average PM10 concentration of 127.6 at Wan-Li station. FP cases occurred 1.9 % of the time and the mean concentration of PM10 during the FP periods was about 85 �g/m3. B( happened 18.6% of the time and the mean concentration of PM10 wa g/m3. Dust storms and air pollutants tend to be transported in diffe parcels as evident by the lack of correlation between dust aerosols ar pollutants. The frequency of occurrence of local pollution (LP) cases w % in winter and spring. The average PM10 concentration of LP cases Wan-Li station was 47.4 �g/m3. However, about one-third to two-thi the PM10 during LP cases was contributed by long-range transport. W this contribution is taken into account, we estimate that the contribut the long-range transport to PM10 in northern Taiwan in winter and sp in the range of 50% to 75%.

## **Presentation Mode:**

Keywords: Dust storms, air pollutants, long-range transport

Status: Reviewed.

## **Co-Authors**

No.	Title	First Name	Family Name	Organization
1	Dr.	C-Y	Lin	Academia Sinica
n	D	C V	Vauna	