



Contribution ID: 224 Contribution code: PSA-18

Type: Poster

## Radiocarbon-based source apportioning of organic carbon aerosols over Mt. Tai, China : A case study from the 2006 sampling campaign

Monday, 21 October 2024 16:55 (20 minutes)

In order to better characterize carbonaceous components in atmospheric aerosols and to assess the contributions of biomass sources in the carbonaceous aerosols in the regions where heavily influenced by field burning of agricultural wastes, we collected carbonaceous aerosols at the summit of Mt. Tai (1534 m above sea level) on a daytime and nighttime basis during a summertime campaign (May–June 2006) and analyzed radiocarbon and  $\delta^{13}\text{C}$  of bulk-phase organic aerosols to determine the relative contribution of biomass and fossil sources. Mt. Tai is heavily influenced by field burning of agricultural wastes such as wheat straws in the North China Plain during the harvest season in early summer (Fu et al., 2008). Thus, it is an ideal site to characterize the air quality influenced by the heavy biomass burning for this purpose. In this study, we present radiocarbon and  $\delta^{13}\text{C}$  data of carbonaceous aerosols at Mt Tai and discuss the source apportionment using the Markov Chain Monte Carlo-driven Bayesian modeling.

Reference;

Fu et al., Organic molecular compositions and temporal variations of summertime mountain aerosols over Mt. Tai, North China Plain, *Journal of Geophysical Research*, 113, D19107, doi:10.1029/2008JD009900.

### Student Submission

No

**Primary authors:** Prof. SHAN, Liu (Hubei University); UCHIDA, Masao (National Institute for Environmental Studies); MANTOKU, Kanako (National Institute for Environmental Studies); KOBAYASHI, Toshiyuki (National Institute for Environmental Studies); KAWAMURA, Kimitaka (Hokkaido University)

**Presenter:** Prof. SHAN, Liu (Hubei University)

**Session Classification:** Poster Session A

**Track Classification:** Applications of Atmospheric and Environmental C-14