



Seasonal characteristics of air pollutions in Japan

Makiko Nakata (1), Itaru Sano (1), and Sonoyo Mukai (2)

(1) Kindai University, Higashi-Osaka, Japan (nakata@socio.kindai.ac.jp), (2) KCGI, REESIT, Kyoto, Japan

Concerns about air pollution caused by particulate matter and its influence on human health have increased. Japan's environmental standards for air pollutants, including sulfur dioxide, nitrogen dioxide, carbon monoxide, photochemical oxidants, the particulate matter as SPM defined as airborne particles with the diameter smaller than or equal to $10\ \mu\text{m}$ and as $\text{PM}_{2.5}$, are ratified. Concentrations of these air pollutants are measured by an atmospheric environmental regional observation (AEROS) system consisting of many stations placed all over the Japan. Air pollutants in Japan have reached the environmental standards except for $\text{PM}_{2.5}$ and photochemical oxidants. It is known that air pollutions are complicated due to influences by both local and trans-national air pollutants. The effect and role of each influence are strongly dependent upon the climate change, especially in Japan in the monsoon climate zone. Hence in this work the seasonal characteristics of air pollutions in Japan are considered based on the measurements of air pollutants from ground samplers (AEROS) and the Japanese satellite Himawari-8/AHI, and numerical model simulations.