

AAS001-P02

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## Measurement of variation of total mass, composition, and optical property for PM<sub>2.5</sub> at summit of Mt. Fuji

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It is well known that a particle in which diameter is less than 2.5  $\mu$ m (PM<sub>2.5</sub>) influence health issue by air pollution and climate change by scattering and absorbing sun light. It is important to observe the chemical composition, optical property and mass concentration of PM<sub>2.5</sub> to clear source, transportation of PM<sub>2.5</sub>. To investigate behavior of PM<sub>2.5</sub> at the summit of Mt. Fuji, we measured total mass concentration and optical property of PM<sub>2.5</sub> using SHARP monitor and nephelometer, respectively, and collected PM<sub>2.5</sub> using high-volume air sampler in this study. Mass concentrations of PM<sub>2.5</sub> in the daytime were higher than that in the night time. Using two high-volume air samplers we collected PM<sub>2.5</sub> on the quartz filter which was exchanged every week or 3 days. We controlled sampling time for high-volume air sampler to classify daytime (10:00-19:00) and nighttime (0:00-6:00) PM<sub>2.5</sub>. We analyzed the chemical composition such as water soluble compounds (sulfate, nitrate, and ammonium etc.), metals and organic and elemental carbon of PM<sub>2.5</sub> on the filter we collected. From the observed results and metrological data we investigated the cause of variety of aerosol concentration and mass closure.

Keywords: aerosol, Mt. Fuji, optical property, chemical composition