

Measurements of radon and thoron decay products at Tarobo, a base of Mt. Fuji, Japan

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The atmospheric activity concentrations of the short-lived radon and thoron decay products were measured at Tarobo (1300 m a.s.l.), a base of Mt. Fuji, from July 2014 to Aug. 2015. Radon and thoron concentrations were calculated with energy spectra of *alpha*-ray emitted from radioactive aerosols collected on a filter with a time resolution of 2 or 4 h by using a radon monitor. In addition, size distributions of aerosols from about 10 nm to 5000 nm in diameter were measured with a scanning mobility particle sizer and an optical particle counter. In order to estimate the history of air masses, the backward trajectories from 72 h ago to 48 h ago were computed using the HYSPLIT trajectory model (https://ready.arl.noaa.gov/HYSPLIT_traj.php).

Clear seasonal variations of total counts of decay products were found that monthly averaged values were high between autumn and winter, and low between spring and summer. On the other hand, diurnal variations were not observed clearly. It is supposed that the cause of seasonal variations is due to the deference of air mass. These patterns were compared with the results measured at Jungfraujoch (Gaggeler, *et al.*, 1995).

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References

Gaggeler, H. W. *et al.*, Atmospheric Environment, 29, 607-616, 1995

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