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Temporal Variations in Cosmogenic and Terrestrial Radionuclides

Abstract content

Two types of radionuclides, cosmogenic Be-7 (half life 53.3 days) and terrestrial Ra-226 (half life 1600 years), were measured in Tokyo in 2002-2006. Be-7 is produced by galactic cosmic rays in the upper atmosphere and Ra-226 is a decay daughter of the uranium-series radionuclide. The concentrations of these radionuclides in surface air were determined from a gamma-ray spectroscopic experiment. We analyzed temporal variations in surface concentrations of these two types of radionuclides. The Be-7 concentrations indicated the seasonal variations with enhancements in spring and autumn. On the other hand, there were not temporal variations in Ra- 226 concentrations. Most of Be-7 is produced in the lower stratosphere and slowly transported to the surface, while the Ra-226 is distributed in the atmosphere near the surface. We discuss the differences in the temporal variations in the surface concentrations between Be-7 and Ra-226 from their altitude distributions in the atmosphere and air mass motions.

If this papers is presented for a collaboration, please specify the collaboration

Summary

Reference

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