## **30th International Cosmic Ray Conference**



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# Atmospheric Transport Inferred from Seasonal Variations in Cosmogenic Be-7 Concentrations

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## Abstract content

A cosmogenic radionuclide Be-7 (half life 53.3 days) results from nuclear interactions of galactic cosmic rays in the Earth's atmosphere. Most of Be-7 is produced in the lower stratosphere and slowly tranported to the surface. Be-7 plays a role of atmospheric tracer and its measurements provide an important clue on atmospheric air mass motions. Since 2002 we have continuously measured surface Be-7 concentrations in Tokyo. The data in 2002-2006 indicated apparent increases of the Be-7 concentrations are not associated with scavenging by precipitation. We suggested the possibility that the stratospheric Be-7 are brought to the upper troposphere through a large-scale air mass exchange between the stratosphere and troposphere. The air mass exchange is inferred to occur in association with a periodic passage of a pair of traveling high pressure and extratropical low pressure over Japan in spring and autumn.

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

### Summary

### Reference

Proceedings of the 30th International Cosmic Ray Conference; Rogelio Caballero, Juan Carlos D'Olivo, Gustavo Medina-Tanco, Lukas Nellen, Federico A. Sánchez, José F. Valdés-Galicia (eds.); Universidad Nacional Autónoma de México, Mexico City, Mexico, 2008; Vol. 1 (SH), pages 669-672

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