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# The yearly and seasonal variations from 7-year data set of daily cosmogenic nuclide Be-7 concentrations in the atmosphere

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## Abstract content

Be-7 is produced by interaction between cosmic rays and nitrogen or oxygen in the atmosphere. The variation of its concentration indicates the variation of cosmic-rays intensity. Cosmic rays which reach the earth are modulated by the solar activities in the heliosphere. It is important to investigate the relationship between the concentrations of Be-7 and the solar activities, because of the estimation of the solar activities in past time using the cosmogenic nuclide with the long half-life. We have been continuously observing the daily Be-7 concentration in Yamagata, Japan (38.3°N, 140.3°E) since 2000. Based on the 7-year observation, anti-correlations between the Be-7s and the sunspot numbers are obtained. The variation of Be-7 concentrations was 38 % during the 7 years when the sunspot numbers changed 75 %. However, as the behavior is not so simple, we have analyzed the seasonal variations. Moreover, the Be-7 concentrations have been continuously observed in Iceland (64.7°N, 21.2°W) since Sep.2003. This observation point is situated at high latitude. We report the relationship between the variation of Be-7 concentrations and solar activities, using the 7-year data set and the 3-year dataset in Iceland.

## 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 717-720

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