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The AD 775 cosmic ray event shown in Beryllium-10 data from Antarctic Dome Fuji ice core

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^{14}C content in tree rings and ^{10}Be concentration records in ice core provide information about past cosmic ray intensities. Some studies reported a large annual increase in the ^{14}C content from AD 774 to 775. Also quasi-decadal ^{10}Be data in the Dome Fuji ice core show a sharp peak in a corresponding period of the AD 775 event. However, annual ^{10}Be variations in the Dome Fuji core or in other cores have not been revealed. We measured ^{10}Be concentration in the Dome Fuji ice core with quasi-annual resolution for the period approximately from AD 763 to 794. We found a clear ^{10}Be increase around AD 775 on a background variation. Since the quasi-annual ^{10}Be and Na^{+} ion data show a good agreement in our measurement period, the background variation in ^{10}Be concentration is considered as a climatic noise. It is possible that the quasi-annual ^{10}Be increase is occurred by the AD 775 cosmic ray event.

Collaboration

– not specified –

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