High precision measurement of carbon-14 content in tree rings from the Maunder Minimum

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Time series of cosmogenic nuclide such as carbon-14 in tree rings and beryllium-10 in polar ice cores provide the information on the variations of cosmic rays, solar activity, and heliospheric environment in the past. Carbon-14 in tree rings provide those information with no dating uncertainties for the past several thousand years. We are conducting high-precision measurement of carbon-14 in tree rings for around the grand solar minima, aiming at obtaining the information on the transition of solar cycle lengths as well as the detailed variations of galactic cosmic rays. In this paper, we present our recent results of the high-precision measurement using the Accelerator Mass Spectrometer at the Yamagata University.

Keywords: grand solar minima, solar cycle, cosmogenic nuclide

