Study by AMS^{14}C dating on the temporal transition of timber circle remains in Ishikawa prefecture, Japan

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Timber circle remains have been excavated specifically from the archaeological sites of the final stage of the Jomon period at Hokuriku area, Japan. Timber circle remains are characterized by wooden pillars vertically cut in half and arrangement in circle with a diameter of several meters (Figure 1). Several sets of timber circle remains of the similar structures were discovered at the restricted areas of Mawaki archaeological site, Ishikawa prefecture, Hokuriku, Japan. Although it suggests reconstructions of the timber circle in the same area, little is unknown about time interval of the reconstruction. It is difficult to clear this question only by archaeological viewpoint. Therefore, in this study, we would like to elucidate the temporal transition of timber circle remains by radiocarbon dating and wiggle-matching method of the timber samples.

Materials for this study are the timbers excavated from the Mawaki site. Six sets of timber circle remains were discovered in this site. Radiocarbon ages of these timbers are measured in previous study as approximately 2500BP. However, they are the ages by normal ^{14}C dating and no wiggle-matching method was employed. Thus, we try to apply wiggle-matching to the timber samples, to get calendar ages of cutting the timbers with high precision.

We sampled annual rings sequentially in half decadal group from two timbers that belonged to a same circle. Samples were washed in distilled water by an ultrasonic cleaner, and treated with HCl and NaOH. Each sample was combusted to CO_2. After purification, the CO_2 gas was reduced with H_2 to graphite. Graphite targets are ready to be measured by an accelerator mass spectrometer (HVEE, Model-4130 AMS). The ^{14}C ages to determine the cutting ages of the woods precisely will be analysed by wiggle-matching method.

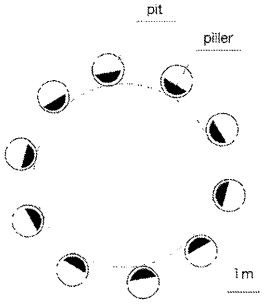

Figure 1. Model of timber circle remains

Black parts indicate the wooden pillars vertically cut in half. These pillars are planted in pits and arranged as dotted circle.