

Ice core dating using tree ring oxygen isotope

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Alpine ice cores obtained from mountain glacier are considered to be an important proxy of paleoclimate changes. However, the dating of an ice core collected at lower latitudes is challenging due largely to complicate topographical and climatological conditions. Therefore, analyzing alpine ice cores is usually faced with dating error. On the other hand, tree-ring $\delta^{18}\text{O}$ can be used to reconstruct annual precipitation change without dating error. In this study, we tried to develop a new dating method for alpine ice cores by collaborating with tree-ring $\delta^{18}\text{O}$ data. In order to develop the new methodology, we collected tree-ring samples and an ice core in the Nepal Himalaya in 2017. Unfortunately, we could not obtain good ice core samples. Therefore we examined new dating methods using an existing ice core, which was obtained from the western Nepal Himalaya in 1998.

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