Trace elements in Japanese cedar and Japanese cypress by PIXE analysis

- An approach to science of wooden cultural properties-

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Abstract

Nowadays, the dendrochronological method is widely applied to the field of archeology, geology, climatology, history of architecture and arts. In practice of the method it is required that wooden specimens keep the bark and sapwood besides heartwood. But it is rather difficult to distinguish the sapwood from heartwood within an aged wood by usual means of visual impression. Then, we tried to distinguish them in Japanese cedar and Japanese cypress by trace elements analyzed by PIXE.

Results showed that the heartwood remained much higher K/Ca ratio compared to the sapwood. This probably means the possibility for distinguishing the sapwood from heartwood by trace elements.

Additionally, it is suggested that there was a difference between the patterns of distribution line of the K/Ca ratio shown in each Japanese cedar specimen.