

太宰府市小正府遺跡から出土した瓦を用いた考古地磁気強度研究#加藤 千恵¹⁾, 王 志豪¹⁾, 穴井 千里¹⁾, 大野 正夫¹⁾, 田尻 義了¹⁾⁽¹⁾九州大学**Archeointensity study of roof tiles excavated at the Koshobu Site, Dazaifu City**#Chie Kato¹⁾, Zhihao Wang¹⁾, Chisato Anai¹⁾, Masao Ohno¹⁾, Yoshinori Tajiri¹⁾⁽¹⁾Kyushu University

Reconstructing the variation of the strength of the geomagnetic field is important both to develop our understanding of the geodynamo and to improve the precision of archeomagnetic dating. To construct a high-resolution variation curve of archeointensity, reliable archeointensity data with accurate age are required. In this study, we conducted archeointensity experiments on roof tile fragments excavated from the remains of old kilns in the Koshobu Site, Dazaifu City, Fukuoka. A roof tile with transcription of kanji characters meaning "7th July 975 CE" was discovered from the kilns, indicating the year of kiln operation, namely, the age of the archeointensity recorded. Five samples were preselected based on surface magnetic susceptibility measurements on the excavated roof tiles without archeologically meaningful transcriptions or surface patterns. The samples were further screened by rock-magnetic analyses and stepwise demagnetization of the natural remanent magnetization (NRM). Two samples with blackish color showed little thermal alternation during thermomagnetic analysis and moderate coercivity distribution upon isothermal remanent magnetization (IRM) acquisition experiments. Curie temperature estimated from the thermomagnetic curve and the results of Three-axis IRM experiments indicate that the magnetic carrier of these samples is dominated by single-domain magnetite with low Ti or Al content. On the other hand, three samples with reddish brown to white color showed less magnetic and thermal stability. Archeointensity experiments by the Tsunakawa-Shaw method was conducted on ten specimens taken from the former two roof tiles. The results from seven specimens passed the standard selection criteria for reliable archeointensity, and the mean value was $63.0 \pm 5.0 \mu\text{T}$. In addition, IZZI-Thellier archeointensity experiments were carried out on two specimens and gave preliminary values of 60.1 and 60.8 μT . The obtained archeointensity is relatively high compared to the variation of archeointensity of Japan and South Korea reported by recent studies, but generally consistent with the trends in preceding and following periods. Together with the accurate age of the samples, the present study will provide an anchor point of the archeointensity reference curve for East Asia.