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Microanalysis study on ancient Wiangkalong Pottery

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Wiangkalong is one of major ceramic production cities in northern of Thailand, once colonized by the ancient Lanna Kingdom (1290 A.D.). Ancient Wiangkalong potteries were produced with shapes and designs as similar as those of the Chinese Yuan and Ming Dynasties. Due to the complex nature of materials and objects, extremely sensitive, spatially resolved, multi-elemental and versatile analytical instruments using non-destructive and non-sampling methods to analyze theirs composition are need. In this work, micro-beam X-ray fluorescence spectroscopy based on synchrotron radiation was firstly used to characterize the elemental composition of the ancient Wiangkalon pottery. The results showed the variations in elemental composition of the body matrix, the glaze and the painting, such as K, Ca, Ti, V, Cr, Mn and Fe.

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