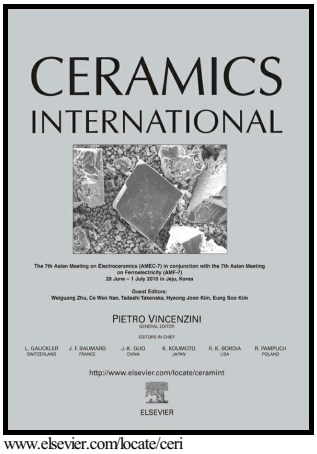

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On-Site Raman Analysis of 17th and 18th Century Limoges Enamels: Implications on the European Cobalt Sources and the Technological Relationship Between Limoges and Chinese Enamels

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Abstract

Limoges enamels on metal from the 17th to 18th centuries were analysed by non-invasive Raman microspectrometry with a mobile set-up in storage at the Musée des Arts Décoratifs (Paris) in order to identify the types of glazes and pigments used and to compare them with those found in Chinese *cloisonné* and *falangcai* enamels painted on metal and porcelain from the Kangxi and Yongzheng reigns (Qing dynasty). Certain French Jesuit and Chinese historical records report exchanges of technical know-how and artefacts during this period from France to China. Particular attention is paid to the detection of lead arsenate in blue and white enamels as well as in the whitened ones. Lead arsenate appears to be formed in blue enamels due to the high arsenic content of European cobalt ores exploited during the period in question.

+ Graphical abstract

Keywords: B: impurities; B: spectroscopy; C: colour; D: glass arsenic