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## PIXE analysis of Italian ink drawings of the XVI century

A. Zucchiatti <sup>a, 1</sup> ... J.M. Matillas <sup>b</sup>

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### Abstract

The composition of inks in a group of 24 drawings of ten XVI century Italian painters, has been determined by PIXE at the external micro-beam line of the Centro de Micro Análisis de Materiales of the Universidad Autónoma de Madrid. Ink elemental thicknesses have been determined by comparison with a set of certified thin standards. A comprehensive comparison of inks has also been performed by renormalisation of spectra and definition of an ink-to-ink distance. The elemental compositions and the ink-to-ink distances give consistent results that are generally in line with the appearance of the drawings and add relevant instrumental information to the stylistic observation, revealing for example the presence of retouches and additions in different parts of a drawing. Cluster analysis performed on a subgroup of 13 artefacts from the Genoese painter Luca Cambiaso and his school has revealed a partition that separates neatly the work of the master from that of his followers.



## Keywords

Ferro-gallic inks; PIXE analysis; Cluster analysis; Luca Cambiaso

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