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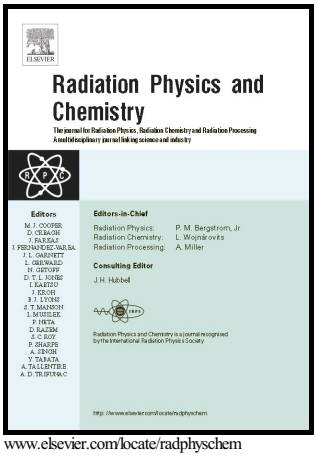

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XRF analysis to identify historical photographic processes: the case of some Interguglielmi Jr.'s images from the Palermo Municipal Archive

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Abstract

In the early period, even though professional photographers worked with similar techniques and products, their artistic and commercial aims determined different choices and led them to follow different, often personal, recipes. For this reason, identification of the techniques through date and name of the photographer or through some visual features like colour, tonality and surface of the image layer, often needs further investigation to be proved. Chemical characterization, carried out in a non or micro destructive way, can be crucial to provide useful information about the original composition, degradation process, realisation technique, in obtaining an indirect dating of the photograph and/or to choose the most correct conservation treatment. In our case, x-ray fluorescence (XRF) analysis was used to confirm the chemical composition of eleven historical photographs dated between the end of the 19th century and the beginning of the 20th, shot in Palermo (Sicily) by a renowned photographer of the time, and pasted on their original cardboards. The elemental identification, obtained with a non destructive approach, provided important information to distinguish among different photographic techniques in terms of distribution and characterization of chemical elements markers in the photographic surface.

Keywords: Conservation, Diagnostic techniques, XRF measurements, PCA, *Matte*-collodion, Albumen prints