Research of the best spatial analysis method for IR multiporal thermographic datasets. Cluster analysis to study cultural heritage

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In last years the use of Infrared thermography for cultural heritage improved, because it is a technique that allows to realize in situ the not-destructive evaluation of constructional materials and to determine the possible existence of pathologies, decay, etc.

The interpratation of IR images and mapping with accuracy existing patterns is nowadays still difficult. With this aim a geographically approach was used.

A monument's wall can be considered an improper geographically space and the continuity/discontinuity of materials and their properties can be considered as spatial patterns. Consequently spatial analysis and cluster detection methods can be used to treat in a quantitative way the IR thermographic dataset and to map in a GIS characteristics of the wall, useful for an eventual program of restauration.