

Geophysical and thermographic investigations addressed to the study of the church of “S. Maria del Rosario” in Sicily (Italy)

D. Barilaro, D. Majolino
Dipartimento di Fisica, University of Messina¹

S. Gresta, S. Imposa*, A. Schillaci
Dipartimento di Scienze Geologiche, University of Catania²

A. Leone
Assessorato Regionale LL.PP., Dip. LL.PP.Uff. Genio Civile di Catania³

Abstract: This paper is aimed at detecting the presence of crypts and/or buried structures within the church of S. Maria del Rosario, located in Motta S. Anastasia village (Catania, Sicily, Italy), by using the non-destructive Ground Penetrating Radar (G.P.R.) investigations.

Furthermore, infrared thermo-graphic analyses have also been carried out to individuate unhomogeneities in the building structure and to collect information regarding the component elements, their shape, their physical characteristics and their state of decay.

The obtained results point to textural differences in the walls and some water infiltrations. Finally, in-situ drillings on the church's walls were performed to obtain information about the building material and their state of degradation. Thanks to these analyses an accurate repair work can be carried out on the building.

Key words: Ground Penetrating Radar, infrared thermo-graphic analysis, crypt, wall texture, Sicily

¹ C. da Papardo, s. ta Sperone, 31-98166 Messina, Italy

² C. so Italia, 55-95129 Catania, Italy; *Corresponding author: tel. +39 095 7195701; e-mail: imposa@unict.it

³ Via Lago di Nicito, 89-95100 Catania, Italy