

## **INTEGRATE METHODS OF GEOPHYSICAL PROSPECTING AND CORE DRILLINGS FOR PALEOMORPHOLOGICAL EVOLUTION STUDIES IN PALMA CAMPANIA (NAPLES, SOUTHERN ITALY)**

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The results of geophysical prospecting carried out in Palma Campania (Southern Italy) are presented. The aim of the study was the definition of paleomorphological evolution steps of the area and the existence of archaeological features. Georadar and geoelectrical methods were used, with the help of some core drillings. Geophysical prospecting gave the necessary tool for correlation of data obtained from core drillings, and for defining maps corresponding to the different evolution steps in historical time (the area has been covered by Somma-Vesuvio eruption deposits). Georadar method, after calibration through core drillings, was useful for stratigraphical information and for finding archaeological features. The importance of the area from an archaeological point of view is in fact due to its vicinity to the Acquedotto Augusteo outcrop. Through georadar prospecting it was possible to follow the structure prosecution, mainly for changing of strata inclination in that point. Moreover, a resistivity pseudosection was carried out; with special software developed by Geophysical dept. of Moscow State University, it was possible to draw up an interpretation model. All the data obtained, allowed to define the geological context. In particular, through georadar prospecting, it was possible to follow the limit between most recent Vesuvio lapilli and cineritic “surge” deposits (Pollena eruption), and between the latter and the scoriae and lava strata corresponding to more ancient Pollena eruption.