



EUROPEAN UNION



ROMANIAN GOVERNMENT

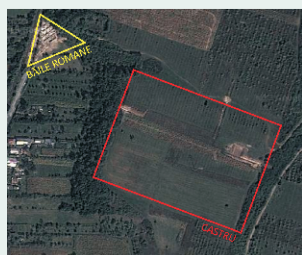


STRUCTURAL FUNDS

Sectorial Operational Program "Increase Economic Competitiveness", co-financed by European Regional Development Fund, "Investments for your future"

Infrastructure for Research Capacity Increasing and Innovation in Optoelectronics and Analytical Instrumentation INOVA-OPTIMA

Project co-funded by the European Regional Development Fund



Location of the Mălăești archaeological sites



GPR scanning chart - of the roman castrum



GPR scanning chart - of the roman baths

INTRODUCTION

The Mălăești archaeological site, from Prahova county, Sfârleanca village, Dumbrăvești commune, is located on the right slope terrace of Teleajanului valley.

Both the castrum and the baths are dated 101 - 117 A.D, being built by the roman soldiers during the Trajan emperor campaigns to conquest Dacian kingdom.

The archaeological site is of national importance. Since 2010 is mentioned in the Historical Monument list and also figures in the National Archaeological Record of Romania.



Area	Sampling frequency [m]	Investigated Area [m ²]	Antenna [MHz]
Area 1	0.9	60	800
Area 2	2	900	800
Area 3	2	1882	800
Area 4	0.9	22.5	800
Area 5	1.5 / antenna	236	250, 500, 800

Table - general parameters

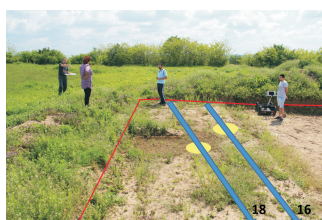
GPR DATA ACQUISITION

The recordings were performed in five areas, three of them located in the castrum perimeter and other two next to the roman baths.

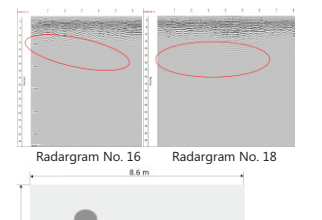
Together with the site administrator, Dr. Ovidiu Țentea the interest areas were selected. Afterwards it is established the spatial resolution recommended for the investigations and also the type of objects to be discovered in order to streamline the correlation between the prospecting methods and the artefacts meant to be detected.

Furthermore, was aimed to identify buried vertical structures and also horizontal structures (roads, trenches etc.). The measurements were influenced by the soil humidity, some of the areas being covered with water, even while performing records, but also by the vegetation.

INTERPRETATION OF RESULTS



Highlighting the interest points on the prospection chart Area 1



2D plot of the interest points Area 1

Both radargrams corresponding to the recordings 16 and 18 (acquisitions performed with the 800 MHz antenna) indicate the presence of a hyperbole, fact which points the existence of a buried object or structure.

CONCLUSIONS

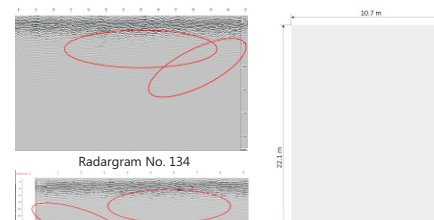
The recordings performed at the Mălăești site highlighted two interest points for Area 1 and a micro-area, corresponding to Area 5.

Preliminary results presents a great archaeological value, a first instant valorisation being indicated by the information that stand as a basis for the site research in the following years.



Highlighting the interest points on the prospection chart Area 5

In Area 5 were discovered two buried structures and an object. The first structure is present in the radargrams no. 51 and 53, while the second one is visible in the radargrams no. 130, 132, 133, 134, 135. The object is noticed in radargrams no. 134 and 135. All of these recordings were performed with the 800 MHz antenna.



2D plot of the interest points. Area 5

Depending on the direction of the measurement, the beginning of a hyperbole may signify how far or near we were from the proximity of a buried structure. In the radargram no. 134, next to the same buried structure is outlined another hyperbole (object or structure) at the distance of 15,5 meters from the beginning of the measurement (or 6 meters from the end of the measurement) and with the peak at a depth of approximately 0.8 meters.

Contact

409 Atomistilor Street, Măgurele, Ilfov County
077125 MG
Tel: +4031 405 63 98
Fax: +4021 457 45 22
<http://inova-optima.inoe.ro>