P13-2	THE RESULTS OF GEOPHYSICAL EXPLORATION OVER A LARGE AREA, AROUND THE ARCHAEOLOGICAL SITE OF APOLONIA, S-W ALBANIA (1992-1997)

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One of the largest and more important archaeological sites in Albania is the ancient Apolonia. It is one of the biggest ancient cities in the Adriatic region and the most mentioned among the 30 other cities of the same name of the ancient time. It is located in the south-western part of Albania, 5-6 km from Adriatic Sea. It was founded at the beginning of the 6th centuries BC, from the Greek colonists. In the 5th century BC it was a developed economic centre extending relations with the Illyrian world and Attica, and later with Italic world, as well. Apolonia started to decline in the 5th century. The ruins of Apolonia were discovered at the beginning of the 19th century, on the hill between the villages of Pojan and Kryegjate, south of Fieri. The city covers an area of about 80 ha inside defensive walls, with a perimeter of about 4000 m. Only necropolises, port and some other targets are situated outside these walls. Apolonia was linked with the sea through the river of Aoos(Vjosa) at the time flowing near the city and being navigable.

At the last years (1992-1997), in this archaeological site, geophysical survey techniques have been applied in archaeological exploration with the intention of mapping and assessment of the most interest sites. The surveyed area was selected by specialists of the Archaeological Institute depending on immediate or perspective archaeological excavations around the centre of the city. During above period, on the central part of the site have been carried out geophysical surveys over a large area, situated in the North, West and Southern part of the temple, with magnetic and resistivity methods.

The goal of the geophysical exploration is multi direction: scientific, economic, environmental.

The applied methods produced both, surface resistivity and magnetic maps, which indicate the location of the potential archaeological features by anomalies. The first one, allows the discernment of buried stone foundations, direction of the defensive walls, monuments, roads, ditches, etc.The second one, is used to recognise buried stone foundations buried brickie walls and to outline the location of forges, kilns, hearths, etc. -Geophysical methods are significantly less costly than excavations, and can be used effectively in sites where excavations were impossible to have been done. On the other hand, the high cost of the conservation of the excavated sites, is another factor that makes indispensable the application of geophysical prospecting for obtaining useful archaeological information avoiding the negative impact and preserving the integrity of cultural inheritance. Further, scattered excavations may cause negative environmental impact on the landscape.

In this framework, magnetic prospection was applied in order to cover a large area (100,000 sqm). The part of the mapped area is in the central part of the city with 14 parcels varying from 1500 to 10000sq.m. The proton magnetometers were used for the measurements of total magnetic field intensity. With resistivity techniques were covered a smallest area of about 32,000 sq.m.,on 7 from those parcels, situated in the North and Northwest of the temple. The apparent resistivity measurements have been carried out using an electronic auto-compensatory.

Some steps have been followed during the whole cycle of the geophysical investigation: reconnaissance, survey grid setup, measurements, data processing and interpretation.

In this paper are presented some of the most interesting geophysical results. High effectively of these methods clearly shown in the different archaeological sites, has led to detection of the archaeological targets mentioned above. Efforts to estimate the outlines of the geophysical anomalies and archaeological targets related with them have also been made.

As a conclusion we can say, that the excavations carried out in the particular areas of these archaeological sites, have clearly proved the great contribution of geophysical investigation. Consequently one have to include them in archaeological programs of all stages, from first reconnaissance through to excavation activity of every area.

Actually, the archaeological evaluation is based on the results of geophysical maps, while in perspective, to study the whole area of the city (ca 80 ha).