



## **Electrical and GPR tomographies for archaeological investigations at Mit-Rahena village, Giza, Egypt**

Salah Sh. Osman(1), Mohamed A. Abd Alla(1), Hamdey H. Seisa(2), and Fathy A. Shaaban(1)

1-Nat. Res. Inst. Of Astronomy and Geophysics, 11722 Helwan, Cairo, Egypt.

2-Geology Dept. Mansoura Univ., Mansoura, Egypt.

This work aims to investigate the near-surface sedimentary cover for tracing the buried archaeological relics, at Mit-Rahena village, Giza, Egypt. Resistance scanning and GPR profiles have been conducted in the investigated area.

Resistance survey have been conducted, using the RM15 Resistance Meter (from the Geoscan Research Institute, England), at Tell El-Rabbi'a (behind Hathour Temple). A total number of 12 square grids, with grid length of 20 meters, are conducted. The field data are processed and illustrated using the GEOPLOT software that can handle data sets generated by instrumentation from the Geoscan Research Institute

Sixty- five detailed GPR profiles were measured at Tell El-Robi' a using the Surface Interface Radar, SIR-2000 institute, and utilizing a 400 MHz antenna with a time window 100ns. Two Way Time (TWT), 38 profiles are carried out east to Hathour temple, each profile has a length of 60m with profiles apart of 1 m. and 27 profiles are carried out north to the temple, each of them has a length of 40 m and profiles apart of 1 m.

The analysis of the radar sections and resistance measurements with the available excavation data allowed for identification and constructions of the shape and extension of the expected archaeological targets beneath the earth surface.