



Integrated Geophysical Studies to Image the Remains of Amenemeht II Pyramid's Complex in Dahshour Necropolis, Giza, Egypt.

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Abstract

Dahshour archaeological site is located adjacent to Giza necropolis at about 25 km south of Cairo. The site itself is an imperative necropolis that attracts the attention of the archaeologists. This location is a spectator of several historical episodes that start with the pyramidal complexes from the early dynasties (the mud brick tombs, the mastabas, and the Bent Pyramid) passing through the phase of the Step Pyramid of Zoser at Saqqara to the first complete pyramid in the history (the Red pyramid of Senefro "Khofo's father").

In 2002, the local archaeological supervisors suggested an area around the debris of the White pyramid (of Amenemeht II) for reconnaissance magnetic survey. The survey had been completed using the gradiometer FM36. More than 98 survey grids (20 x 20 m) of a surface area of 39200 m² have been measured. The results reported the recognition of some parts of the mortuary temple, the causeway, and some other anomalies that could not be attributed to specific archaeological aspect. Therefore, an integrated geophysical survey was proposed, in the present work, to get more details help to identify these objects. The ground penetrating radar (GPR, SIR2000), the electrical resistance meter (Geoscan RM15), and the electromagnetic profiler (GEM300) have been utilized to acquire the data. They have been applied to selected zones to investigate specific objects and oriented to solve the problems questioned by the local archaeological inspectors. The study conveyed an superior image of the whole measured site and helped to identify most of the detected artifacts. Furthermore, the margins of the causeway and its infrastructure have been perfectly delineated. However, the possible place of the eastern entrance and the Valley temple have been tentatively located.

Keywords: Archaeo-geophysics, Dahshour, White Pyramid