

## ***Interactive comment on “Shallow Geophysical Techniques to Investigate the Groundwater Table at the Giza Pyramids Area, Giza, Egypt” by Sharafeldin M. Sharafeldin et al.***

**Sharafeldin M. Sharafeldin et al.**

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Dear Sirs,

We would like to thank Prof. Jothiram Vivekanandan, Chief-Executive Editor, Prof. Andrea Benedetto, the Associate Editor, and the reviewer for their constructive comments for improving our manuscript.

we have corrected, modified and inserted the missing figures on the manuscript. We have highlighted our changes by red color in the revised version.

We have uploaded the revised version as (Pdf file)including the authors response to the

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reviewer comments using the Supplement button. Please Upload the newest version in your web site because the old version is in your system.

With my best regards. Mohamed Shokry

Please also note the supplement to this comment:

<https://www.geosci-instrum-method-data-syst-discuss.net/gi-2017-48/gi-2017-48-AC4-supplement.pdf>

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Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss.,  
<https://doi.org/10.5194/gi-2017-48>, 2017.

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# Shallow Geophysical Techniques to Investigate the Groundwater in the Giza Pyramids Area, Giza, Egypt

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## ABSTRACT

The near surface groundwater aquifer that threatened the Great Giza Plateau was investigated using integrated geophysical surveys. Ten Electrical Resistivity Tomography (ERT) and 19 Ground Penetrating Radar (GPR) surveys were conducted in the Giza Pyramids Plateau. Collected data of each method were evaluated by the processing and modeling techniques. A three-layer model depicts the subsurface and better delineates the groundwater aquifer and water table elevation. The aquifer thickness and seismic velocity vary between 40-80 m and 1500-1800 m/s. The water table elevation is about +15 meters which is safe for Sphinx Statue, and still safe from hazards from Nazlet Elsamman Suburban where a water table elevation attains +10 meters. The water table in Valley Temple and Tomb of Queen Khentkawes of low elevation represent a severe hazard. It can be concluded that perched groundwater is associated with the elevated topography to the west and southwest might be due to runoff and capillary rise.

## 1 Shallow Geophysical Techniques to Investigate the Groundwater in the 2 Pyramids Area, Giza, Egypt

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