

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.

shokryam@yahoo.com

Received and published: 4 July 2018

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

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

GID

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>

Interactive comment

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

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Discussion paper



Shallow Geophysical Techniques to Investigate the Groundwater Table at the Giza Pyramids Area, Giza, Egypt

Interactive
comment

S. M. Sharafeldin^{1,3}, K. S. Essa¹, M. A. S. Youssef^{2*}, H. Karsli³, Z. E. Diab¹, and N. Sayil³

¹Geophysics Department, Faculty of Science, Cairo University, Giza, P.O.12613, Egypt

²Nuclear Materials Authority, P.O. Box 530, Maadi, Cairo, Egypt

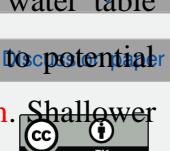
³Geophysical Engineering Department, KTU, Turkey

*shokryam@yahoo.com

ABSTRACT

The near surface groundwater aquifer that threatened the Great Giza Pyramids of Egypt, was investigated using integrated geophysical surveys. Ten Electrical Resistivity Imaging, 26 Shallow Seismic Refraction and 19 Ground Penetrating Radar surveys were conducted in the Giza Pyramids Plateau. Collected data of each method evaluated by the state-of-the-art processing and modeling techniques. A three-layer model depicts the subsurface layers and better delineates the groundwater aquifer and water table elevation. The aquifer layer resistivity and seismic velocity vary between 40-80 Ω m and 1500-1800 m/s. The average water table elevation is about +15 meters which is safe for Sphinx Statue, and still subjected to potential hazards from Nazlet Elsamman Suburban where a water table elevation attains 17 m. Shallower water table in Valley Temple and Tomb of Queen Khentkawes of low topographic relief represent a severe hazards. It can be concluded that perched ground water table detected in

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8 **shokryam@yahoo.com*

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