17-09-2020 – Res2DInv topography webinar Q&A

Can you describe a bit the export in VTK and what VTK mean?
What is Paraview?
VTK is a file format used to display 3D models in the free program Paraview:
https://www.paraview.org/
VTK files can also be used to import inversion results into Aarhus Workbench Essentials for
interpretation and visualization. You can read more and see examples in this document:
http://www.ags-cloud.dk/Wiki/W_GeotomoGuides

Is there any required corrections for steep topo like mountain area for the current flow?

When you include the topography information in the dat file Res2DInv automatically corrects for the
topography, so no additional corrections are needed. If you are unsure about the calculation of the
geometric factor the data can be input as resistance data, then the program will calculate the correct
apparent resistivity automatically.

Aside from elevation, can you add lateral distances? transverse ones along y axis?

No, Res2DInv is strictly 2D, so it is assumed that the profile is as close to a straight line as practically
possible in the fieldwork. If this is not the case it could be considered to use Res3DInv instead to fully
model any 3D effects.

If I have my GPS topo data in seperate file, Can I just upload it or I have to enter it manually

Currently you need to manually enter or copy paste them into the data file, you cannot upload them
in the program.

Hello, when you talked about topography distortion. Does the x-position get distorted aswell?

If you have indicated that the profile distances/X-coordinates are measured along the ground
(ground distances) then the x-posistions will be adjusted according to the topography. If tru
horizontal distances are indicated in the data file then thy will not be adjusted.

Sorry for coming late, when we do the invertion, the program use the topo automoticely?

No worries 😊 Yes, if the topography is found in the data file it is used automatically in the inversion.

Can you repeat which one is the best type of topographic modeling for models with topographic
information and why?
During the elevation part, you show five base models. Which will be more realistic among them
and why?
We recommend sticking to the standard settings unless you have a specific reason to change them,
that is: Distorted finite element grid with a damped distortion of 0.75.

These settings provide a good tradeoff between modelling the topography accurately at the surface
and having a fairly regular model grid at depth.

on a slope, electrodes are placed vertically to the ground?. How does it affect topography processing?

The effect of the angle of the electrodes to the ground will be negligible in most cases as the electrodes are so small compared to the model that they are treated as point electrodes. The most important thing is to ensure good electrode contact.

Kindly describe the elevation which has negative values. Is this the elevation of profile or all the eletrodes.

The elevation entered in the dat file must be the elevation of the ground surface at that location, which will also be the elevation of the electrode if there is an electrode at that location (except for electrodes in boreholes which we have not treated in this webinar) . Negative elevation means that the surface is below sea level (or whichever other reference height is chosen for elevation.

Can you edit the dat file using MS excel? aside from notepad?

If you are consistent in what delimiter you use in the .dat file (tab, comma or space) it is probably possible, but it is not recommended.