

Problem set using RES2DMOD.EXE and RES2DINV.EXE

Consider two air-filled tunnels with these model parameters:

Tunnel #1

Width = 2.0 meters
Height = 2 meters
Depth = 1.5 meters to top

Tunnel #2,

Width = 2.0 meters
Height = 2 meters
Depth = 3.0 meters to top.

Using those parameters and RES2DMOD.EXE:

1. Design Wenner and Dipole-Dipole experiments whose results will adequately image the tunnels. Think about these sub-questions and techniques and remember tunnel two is twice the depth of tunnel one:

- Test the adequacy of your solution by inverting the model results with RES2DINV.
- How does a-spacing have to increase with depth of target?
- How does the width of the line of electrodes have to increase with depth of source?

2. Choose either the Wenner or Dipole-Dipole results and demonstrate how adding 5% noise when you save a model impacts the final inversion.

Turn in a 2-3 page (not including figures) report outlining the experiments. Make sure to explain and support how you arrived at your experimental parameters.

