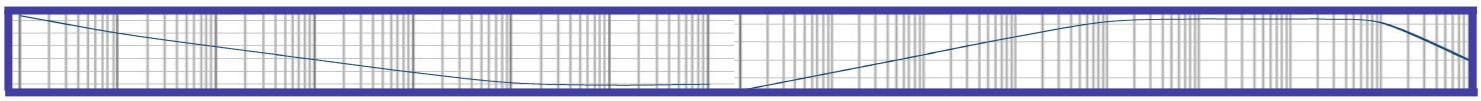
KMS Technologies

Innovating Solutions

KMS 3D modeling services

Running on KMS cluster



Product description

KMS Technologies in alliance with ModEM Geophysics Inc. is providing 3 electromagnetics modeling services for magnetotellurics and CSEM (land and marine). The work will be performed under license from OSU (Oregon State University) to ModEM Geophysics Inc., Prof. Egbert's (the principal author) commercialization company.

3D modeling includes a team of experienced EM geophysics modelers, using the KMS 128 processor cluster in Houston. Following are the steps:

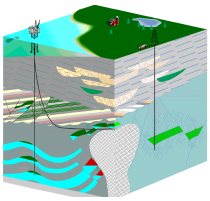
STEP 1: Customer provides a starting model (preferred; alternatively an estimate of 1D background resistivity may also be derived from the data). Any other a priori information that can be used is required at this time.

STEP 2: We generate a 3D model that initially fits data and is convergent. This model is reviewed in a conference call with the Client

STEP 3: Under consideration of Client's input a final model is derived. POST PROJECT SUPPORT: KMS will support further 3D model refinement as agreed upon when the final model is delivered.

Additional 3D products:

3D interpretation services
3D software sales



References

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Meqbel, N., G.D. Egbert, P.E. Wannamaker, A. Kelbert, and A. Schultz, 2013, Deep electrical resistivity structure of the Northwestern US derived from 3-D inversion of USArray Magnetotelluric data, paper submitted to Earth Planet. Sci. Lett.

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Product specification & applications

Data input:

- Apparent resistivity data or spectra in EDI format (other format available)
- Geological constraints

Deliverable:

- 3D model with visualizer
- Models and inversion results
- Data match & risk estimates

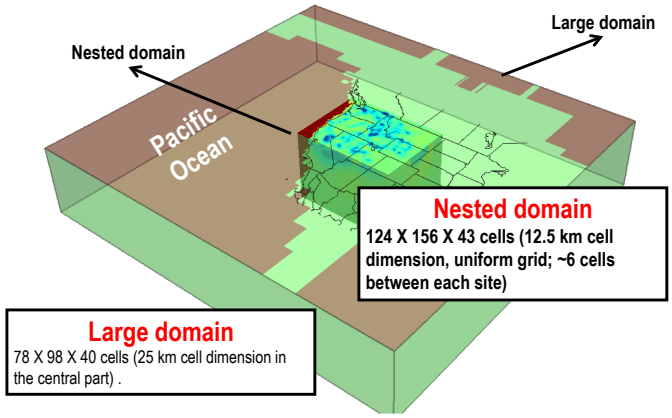

Figure 1: Example of a complex 3D model including detailed model with a large-scale background 3D model.

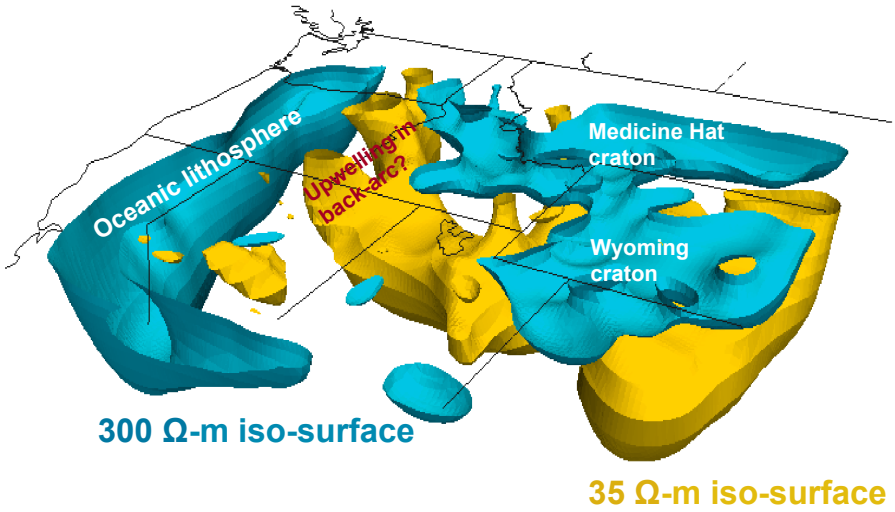

Figure 2: Example of 2 iso-surfaces for 2 units of a 3D model.

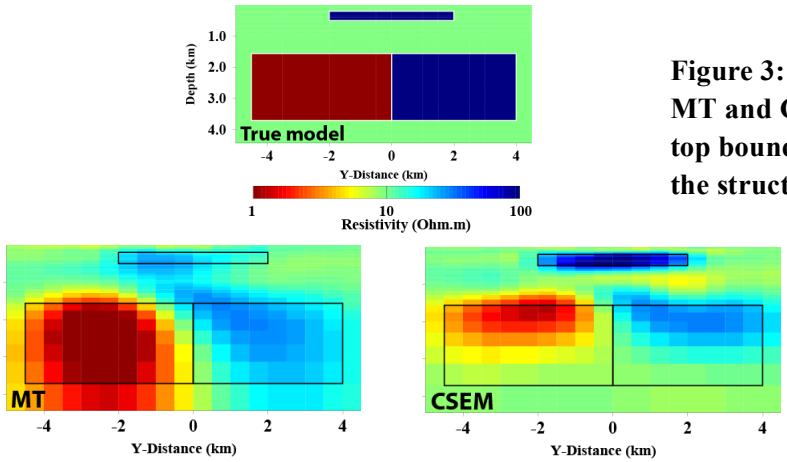

Figure 3: Comparison between inversion of a 3D MT and CSEM model. The CSEM defines the top boundary of the body and the MT the size of the structure.