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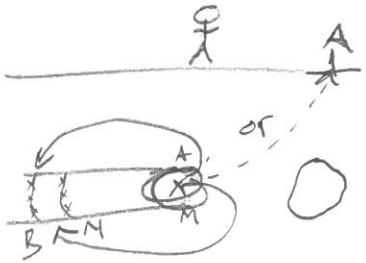
1. Setup
- state the problem. draw a picture.

DC resistivity for Tunnel Boring Machine (TBM)



2. Properties
- what are the diagnostic physical property contrasts?

Trying to image changes in σ or ρ ahead of machine

3. Survey
- where are the sources? receivers? time domain? frequency domain? grounded? inductive?

Source: Injected Direct current

7. Synthesis
- how do we combine our interpretation with other knowledge about the problem and make a decision?

The model in combination with engineering knowledge will allow for better ability to operate the TBM and prevent damage.

6. Interpretation
- what do the results tell us in terms of the geological or geotechnical objectives?

The results will describe geologic changes in front of the TBM; i.e. deviations from the background.

5. Processing
- what steps should be taken prior to obtaining an interpretable image?

A 3D DCR inversion routine is needed to properly image the data.

4. Data
- what are the data? what do you expect to see?

Data is apparent resistivity