



AGH UNIVERSITY OF SCIENCE
AND TECHNOLOGY

Comparing Parallel Programming Environments for the Joint Inversion of Geoelectrical Data

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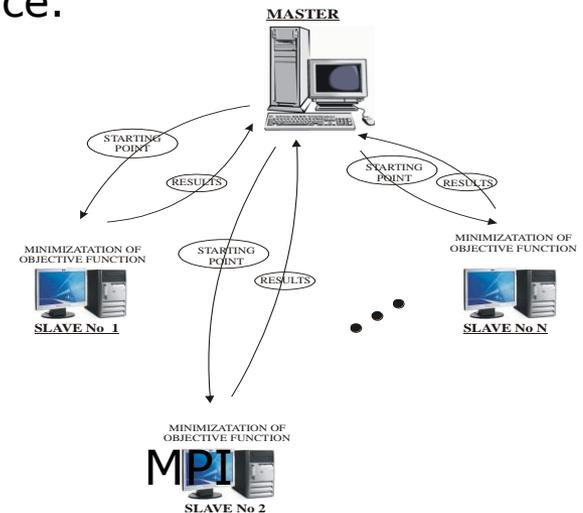
Main issues

1. Inversion of geoelectrical data

- Ambiguity of the inverse problem
 - Equivalence problem
- Joint inversion
 - Joint inversion means the simultaneous minimization of several objective functions.
 - In geophysics joint inversion usually means finding a model that explains several data sets at once.

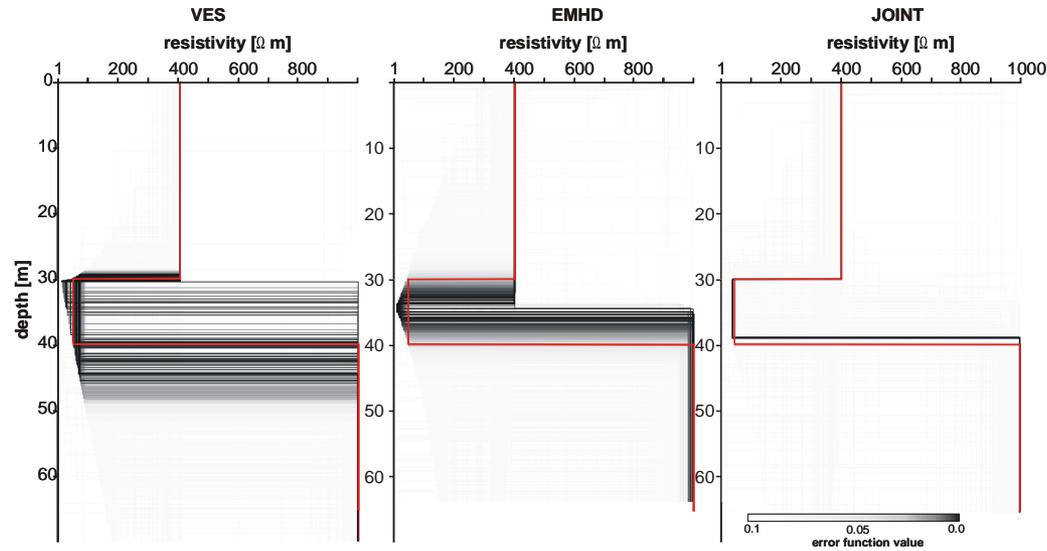
2. Parallel computing

- PC cluster
- SMP cluster

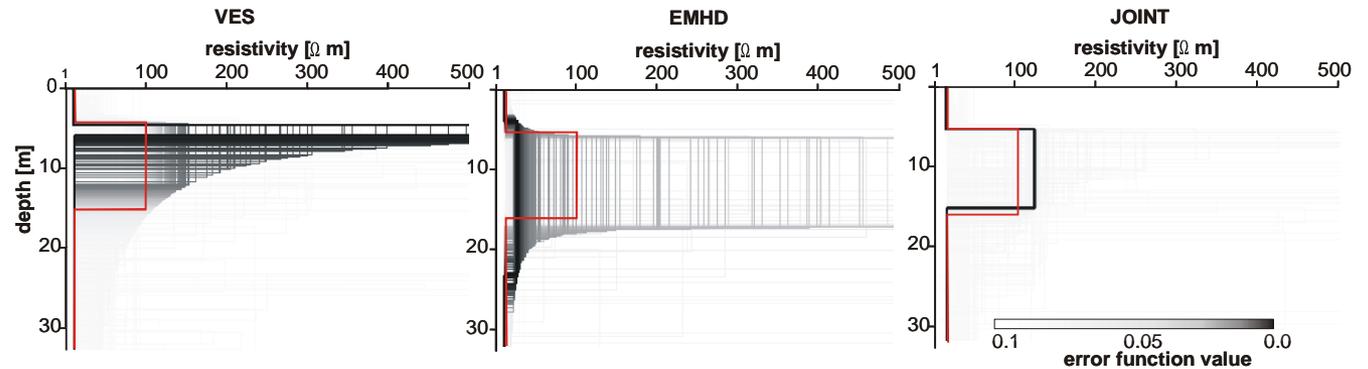


Joint inversion results

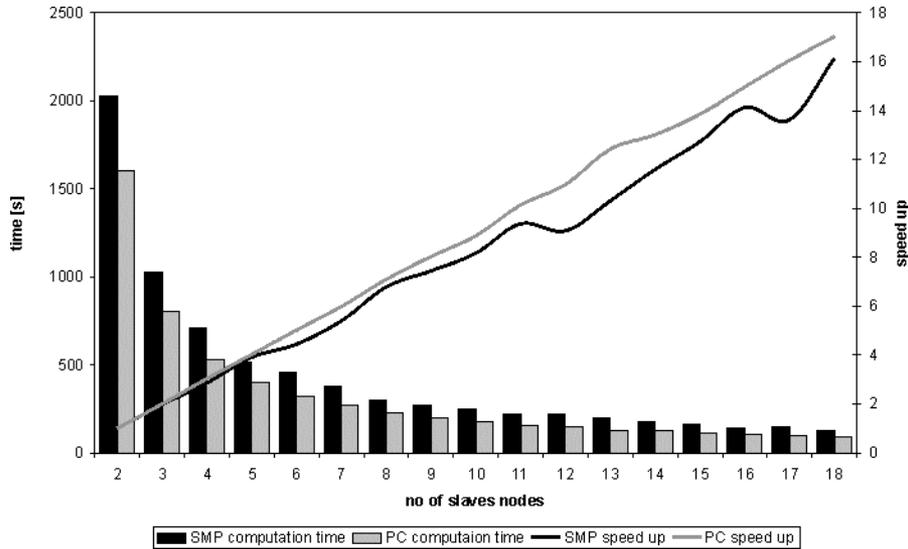
Model 1



Model 2



Comparing Parallel Programming Environments



Relation between speed up and number of computers for PC and SMP clusters.

Relation between efficiency and number of computers for PC and SMP clusters.

