

Interactive comment on “Quasi-3-D resistivity imaging – mapping of heterogeneous frozen ground conditions using electrical resistivity tomography” by C. Kneisel et al.

S. Gruber (Editor)

stephan.gruber@geo.uzh.ch

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Dear authors

All three reviewers of your manuscript agree on its importance and relevance and at the same time point-out several improvements required before publication. Based on those comments and the arguments listed below I ask you to re-submit a substantially revised version of this manuscript.

In essence, all three reviews call for much more technical detail and more traceable argumentation. Please provide sufficient detail on model input and field measurements as well as on the model parameters used and the reasoning behind their choice.

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Please clearly identify arbitrary choices where referenced work or conclusive reasoning cannot constrain the choice of field setup or model parameters. Then, please discuss and demonstrate the effect that such arbitrary choices of parameters (measurement and model) might have. Please revise your way of referencing: (i) Avoid references that add no scientific value (EGU abstracts). (ii) Make an effort to chose the most relevant reference (e.g., is Kneisel et al. 2008 really is the best support explaining the difference between inversion and forward modeling?). (iii) Please provide a broader and more balanced context of existing research. When preparing your revised manuscript please clearly state the aim of the paper and its research questions in the introduction – at the moment it reads “. . . new application is presented”. Please also remove any conclusions that cannot be based on the material and arguments you present – or better: provide additional support for them. Some of those cases are pointed-out by the reviewers. Please also reevaluate statements such as “. . . efficient 3D geophysical mapping . . . has not been possible.” Was it really not possible (and do you preset an advanced method that makes it possible?) or was it simply not done because of difficult logistics?

I look forward to your resubmission and your reply to the reviewer comments. Given the substantial changes required with respect to technical detail and resulting conclusions, your revised manuscript will go through another round of reviewing.

Kind regards,

Stephan Gruber

Interactive comment on The Cryosphere Discuss., 3, 895, 2009.