**Solid Earth
Discussions**

Interactive
Comment

Interactive comment on "Some improvements in subbasalt imaging using pre-stack depth migration" *by* I. Flecha et al.

I. Flecha et al.

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The issues that we as author are more concerned with are the comments by Chris Juhlin which required some more work more work but if

One of the issues that before trying this code on this particular data set, Isaac in his thesis makes the most relevant comparisons with existing codes (comercial packages). This is too long to be developed in this manuscript.

In particular to the comment concerning the model complexity/heterogeniety - the principal effect of heterogeniety is the preferential loss of high frequency (Maresh and White 2005, first break vol 23), (this is beyond scope of this paper). For the longer path refracted energy the effect of the heterogeniety is averaged so we conclude that

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for the purposes of defining the background velocity model used in this paper a simple medium is suffice.

The sentence which referenced to "1st pass data" generated some confusion, in the version I did deleted from the text. Both the stack and PDSM use the same dataset, (the 1st pass data with the full aperture). So as it is the same dataset I thought that the specification of the 1st pass was not necessary.

I did also change figure 5, plot the stack with the same parameters as the PSDM and in depth.

Please also note the supplement to this comment:
http://www.solid-earth-discuss.net/2/C77/2010/sed-2-C77-2010-supplement.pdf
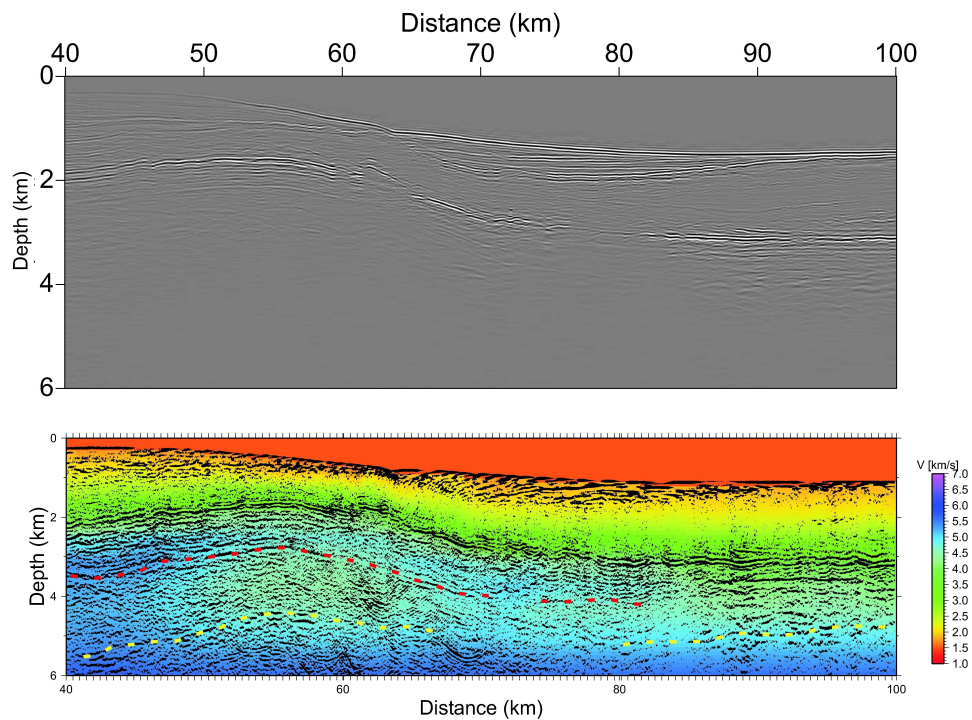
Interactive comment on Solid Earth Discuss., 2, 1, 2010.

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Fig. 1.