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Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "Suppression of very low frequency radio noise in transient electromagnetic data with semi-tapered gates" *by* Jakob Juul Larsen et al.

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Dear Marco

Thank you for the positive comments.

Regarding your comment on IP effects. The culling of negative data and removal of the worst 10% of data is done during the inversion of data, not during the semi-tapering. More data can be kept in the inversion if desired.

In the scenarios you point out, semi-tapered gating is not necessarily the optimum approach. Tapered (and semi-tapered) gating corresponds to filtering of data and hence

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suppress specific frequency bands. Most likely, a better option is to use a full-sampled TEM receiver system where the VLF noise can be modelled and subtracted from the data (Macnae 2015, Rasmussen et al. 2018b). Ideally, this will leave the TEM signal unaffected and gating schemes optimized for enhancing IP effects can be used. Specific suppression of mining noise would demand a detailed study and understanding of this particular noise source, which is beyond the scope of this paper.

Kind regards

Jakob

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