



Now you see it, now you don't: Tips and tricks in ice-penetrating radar data processing

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Radioglaciology is a powerful tool for imaging the internal structure of ice sheets and glaciers and for mapping and characterising their beds. Raw radar data is rarely usable and processing is required to obtain a clear image of the subsurface that is as free from artefacts as possible. The final image should also have accurate geometry and useful information on the reflectivity of interfaces.

For many datasets simple processing steps are all that is required to meet these aims. Here we present, using ground-based radar data, some of the difficult cases that use the more obscure tools from the processing toolbox, such as the use of frequency-wavenumber filtering for the elimination of side-wall echoes in a valley glacier survey; how to enhance weak internal ice reflectors adjacent to a high-amplitude bed reflector; the merits and disadvantages of different migration algorithms; the assessment of bed reflectivity versus variable attenuation; how to recognise out-of-plane artefacts; etc.