

I would like to thank both Reviewers for a very positive evaluation of our manuscript. Most of the comments left in the annotated manuscript were implemented in the revised version (see the manuscript in a track-changes mode).

Below we add some additional explanation addressing Reviewers' comments.

Reviewer 1

Regarding comment on p.19, L316 on the “circular reasoning” related to the work of Deemer and Hurich. In fact, we first refer to the paper of Deemer & Hurich (1994), where the authors are performing the modelling of seismic response of mafic intrusions. In the commented sentence, we refer to 1997 paper, where the authors specifically are describing layered series of Sonkndal-Bjerkreim intrusion.

Regarding the comment about the Fresnel zone migration (p. 20, L344), we don't specifically mention this type of migration, however the cited reference of Singh et al (2019) includes comparison of standard Kirchhoff PreSDM and Fresnel Volume Migration.

Reviewer 2

Comment on Figure 2. It is not possible to add the vertical axis, as the lithologies are roughly sorted by their depth occurrence, but they are repeated throughout the drillhole, e.g., diabase occurs at ca. 500-600 m depth, but also at ca. 900 and 1300 m depth.

Comment on the depth axis in Figure 3. The vertical axis shows “structural height”, which in case of the layered intrusions is counted from the bottom of the layered series (see Karinen, 2010).

Comment on Figure 5: regarding origin of "ringing" seen at approximately 125 Hz? We don't have clear answer to that. We can speculate it is because of the sensor response, which is supposed to be flat till ca. 125 Hz. When merging the data, the system is by default applying a high-cut filter above 125 Hz, however, in our case, this filter was removed to improve the high frequency response.

Comment on p. 15 regarding the work of Gislason et al. This is discussed in depth in a companion paper by Singh et al. 2025: there are similarities between the two collocated profiles shot in 2018 and 2023, however the 2023 data show much more continuous reflections and the overall data quality is much higher.

On behalf of the authors,

Michal Malinowski