

Interactive comment on “Seismic imaging across fault systems in the Abitibi greenstone belt – An analysis of pre- and post-stack migration approaches in the Chibougamau area, Quebec, Canada” by Saeid Cheraghi et al.

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Dear Reviewer,

First We would like to commend your inclusive review and the detailed comments you provided. Your comments definitely increase the quality of the paper. We briefly reply your comments here and in the revised manuscript we address them in details.

About your general comments on application of DMO, PSTM and PSDM: We agree that more advanced computing systems have facilitated the application of the sophisticated

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methods such as PSTM and PSDM in seismic processing, in general. As you also mentioned it is not possible to say which method is the best for hard rock environment before it is tested. Our goal was to compare the conventional processing method (DMO stacked migration) with more advanced method (PSTM) where the survey is crooked. In the revised version we provided some recommendations on possible processing flow, as you mentioned, to address the challenges in hard rock seismic processing. The offset step rate of 0-3 km, 3-6 km, and 6-9 km is designed based on the distribution of CMPs for the acquired geometry in Chibougamau area. The offset step rate has to be chosen based on the geometry and could vary for each specific survey.

In the revised manuscript we also consider your specific comments on references, typo, ...

Best regards, Saeid Cheraghi

Interactive comment on Solid Earth Discuss., <https://doi.org/10.5194/se-2020-155>, 2020.

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