

## Reply to executive editor

Dear Susanne Buitert,

Herewith we resubmit our revised manuscript entitled “Coupled dynamics and evolution of primordial and recycled heterogeneity in Earth’s lower mantle” for *EGU: Solid Earth*. We thank you for mentioning the text overlap problem with our 2020 EPSL paper. It seems like we missed this comment made during the first review round, and we sincerely apologize for that. In the current manuscript version, we have significantly reworded (and restructured) the Methods section, in particular the paragraphs we identified to be very similar to our 2020 EPSL paper. We have attached two PDFs (one for the main paper and one for the supplement) in which all the changed text, relative to the previous manuscript version, is highlighted in blue.

We appreciate your efforts and hope that you will find that the revised manuscript properly accommodates the problem raised, and is suitable to feature in *EGU: Solid Earth*.

Yours sincerely,

Anna Gülcher, Maxim Ballmer, and Paul Tackley.