

Executive Editor Decision: Publish subject to technical corrections (27 Apr 2019) by Federico Rossetti

Comments to the Dear Authors,

Author: Based on the Topical Editor's report and overall assessment of the review process, your manuscript is accepted for publication pending the corrections as outlined by the reviewer.

Many thanks for choosing Solid Earth as a platform for publishing your research.

Sincerely,
Federico Rossetti

Topical Editor Decision: Publish subject to technical corrections (26 Apr 2019) by Ylona van Dinther

Comments to the Author:

Dear Frank Zwaan,

I recommend to publish your relevant manuscript upon technical corrections. For those I recommend you to follow the suggestions by reviewer 1. Furthermore, you could do a final reading to improve language.

Thank you for submitting to Solid Earth,

Ylona

- **Author's reply:** We have modified the manuscript following the comments by reviewer 1 (see below). We also made some minor changes to the text.

Referee #1: Ernst Willingshofer, ernst.willingshofer@uu.nl

Suggestions for revision or reasons for rejection (will be published if the paper is accepted for final publication)

The revised version of the manuscript clearly gained on clarity on the various aspects raised by me and an anonymous reviewer and thus represents a major improvement with respect to the original submission. As already emphasized earlier, this manuscript will be embraced by the analogue modelling community as it provides a systematic overview of modelling results in response to different forcing conditions and rheology and will thus be a helpful guide when designing analogue experiments investigating crustal extension.

My final comment relates to the "paradox" mentioned in context of brittle-ductile experiments subject to high extension rates leading to extremely high bd-coupling, which is in my view less of a paradox than the authors believe, because under such conditions deformation by faulting is dominant over deformation by flow, even though the analogue material is not yet breaking. When scaled to nature the bulk deformation conditions would then probably be "brittle" leading to localized deformation. I advise not to overemphasize the "paradox".

When doing the final reading/corrections please make sure that all in-text citations are also listed in the reference list (eg. Gabrielelesen et al., is in the text but not in the list).

- **Author's reply:** we have double-checked the references, which should be in good order now. We also modified the text with respect to the aforementioned paradox