

Confirmation_vs_Findings

Xiaochuan Tian

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1 Findings

1.1 and 1.2 need field evidences.

- 1.1 Along ridge coupling for reconciling discrepancy between 2D model $M(0.3 \sim 0.5)$ and field observation.**
- 1.2 Asynchronous faulting induced isochron-parallel tensile failure as a mechanism for corrugations.**
- 1.3 From major features**

Comparing model results and field observation can help to infer historical tectonics and magmatism evolution.

- 1.3.1 mass wasting**
- 1.3.2 hourglass median valley**

2 Confirmation

- 2.1 Average $M = 0.6425$ for separating abyssal hills and OCC formation.**

This is first mentioned by [Buck et al., 2005] in 2D version, we confirm that when M increase, faulting begin to alternate. We update on: first, it is 3D version average M for varying M along the ridge; Second, it is very sensitive to weakening rate because only type 2 (slower) weakening results in fault alternation. Further investigation needed to be done on different functional forms, ranges of M variations and different weakening rates.

- 2.2 From major features**

- 2.2.1 Inward fault jump**

First mentioned by [Tucholke et al., 1998], but first time 3D modeling. It provide an explanation for brother domes.

- 2.2.2 Mullion structure**

Due to Anastomosing (Smith et al., 2014) or continuous casting model (Spencer, 1999). Still first time in 3D modeling.