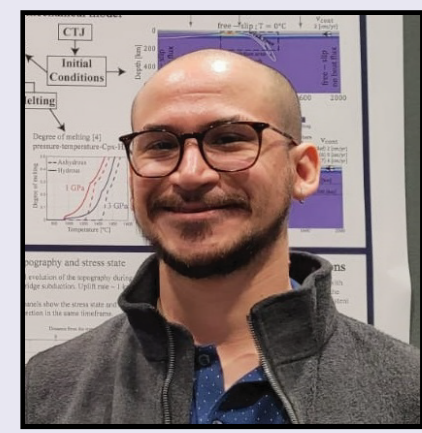


Slab window geodynamics: towards an integrated understanding of upper mantle dynamics and observations

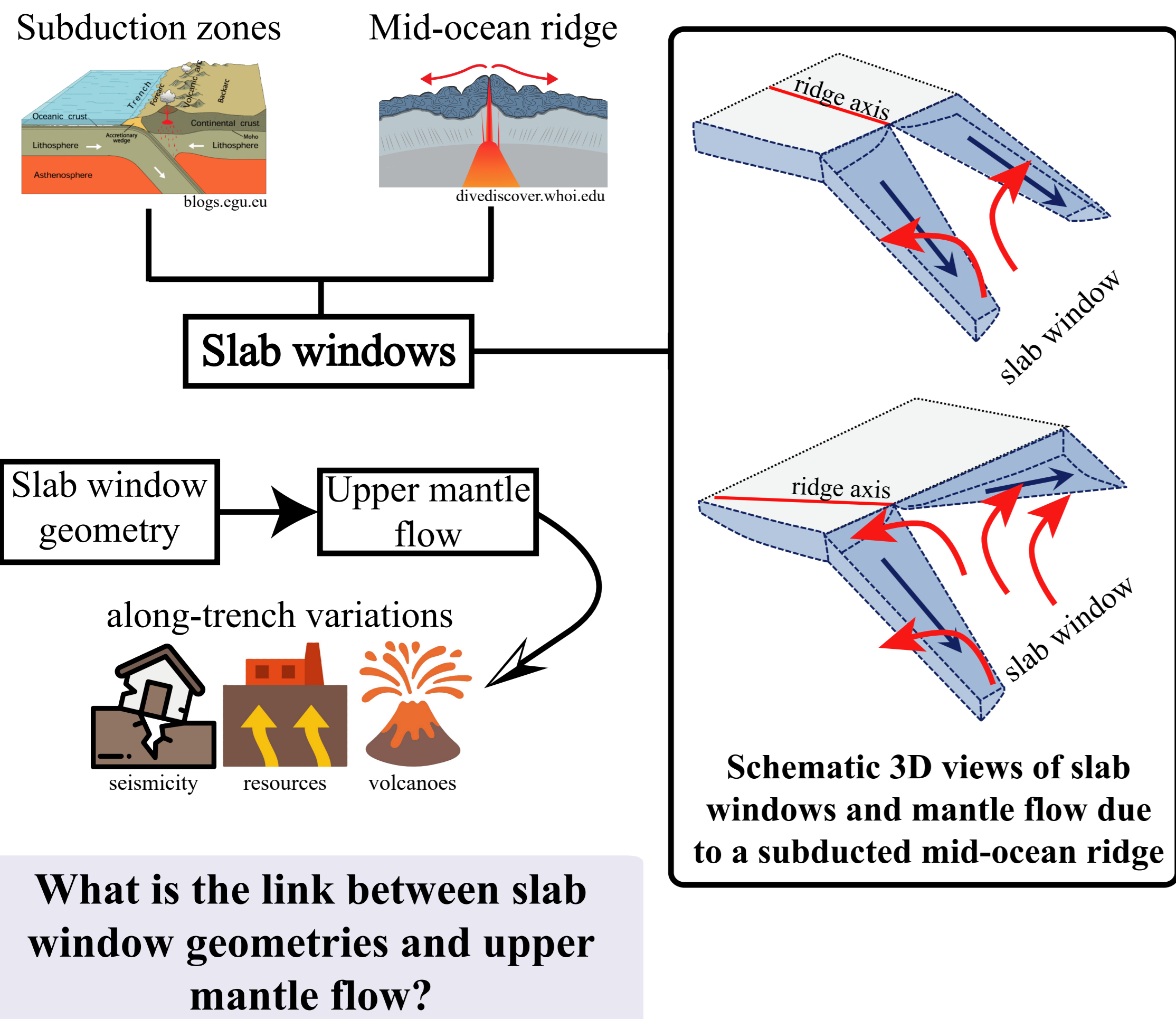


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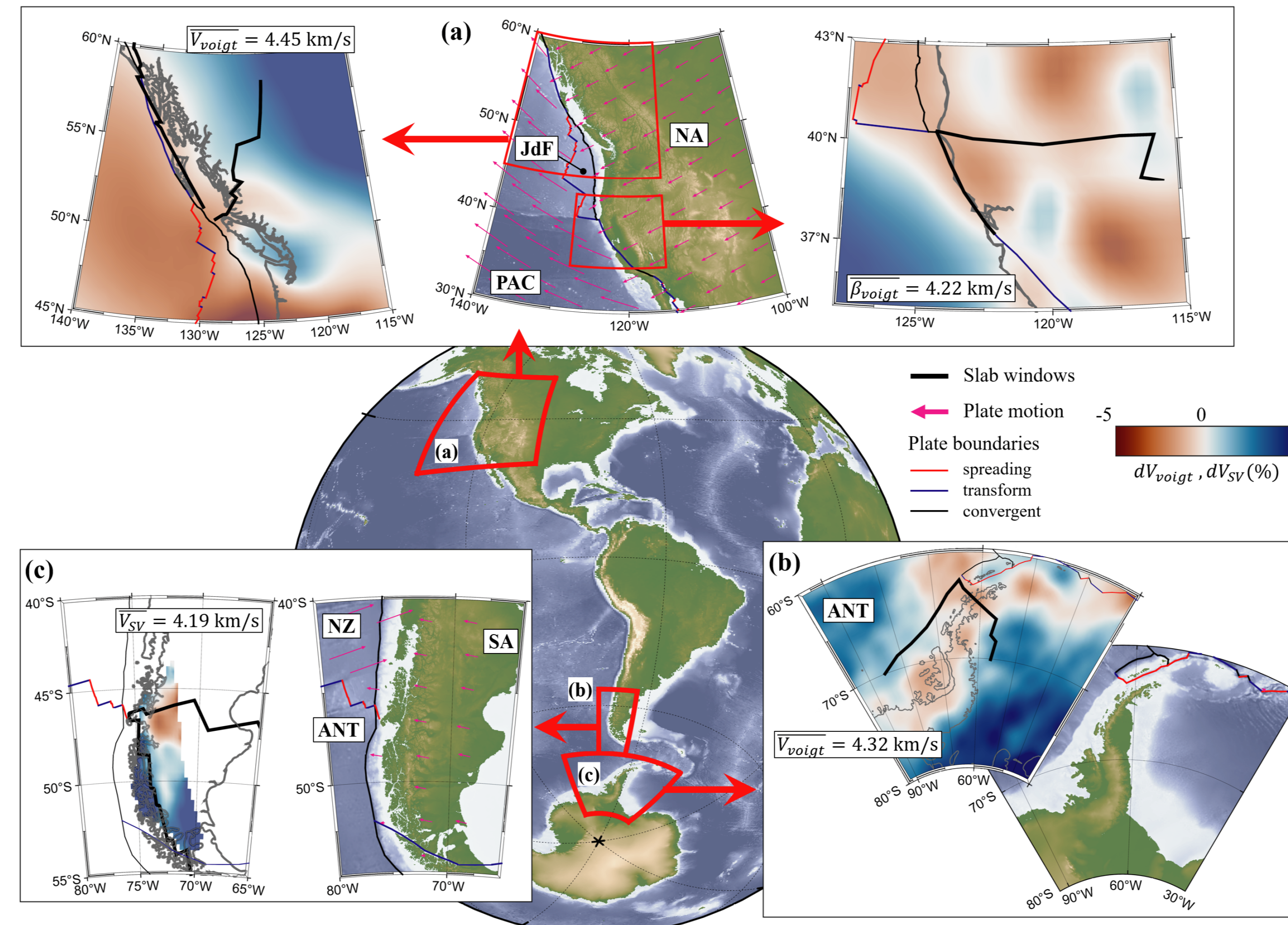
Sanhueza, J.¹, Balázs, A.², Gerya, T.², Yáñez, G.¹, Buck, R.³
(1) Pontificia Universidad Católica de Chile; (2) Institute of Geophysics, ETH Zürich, Switzerland (3) Lamont-Doherty Earth Observatory, Columbia University, USA



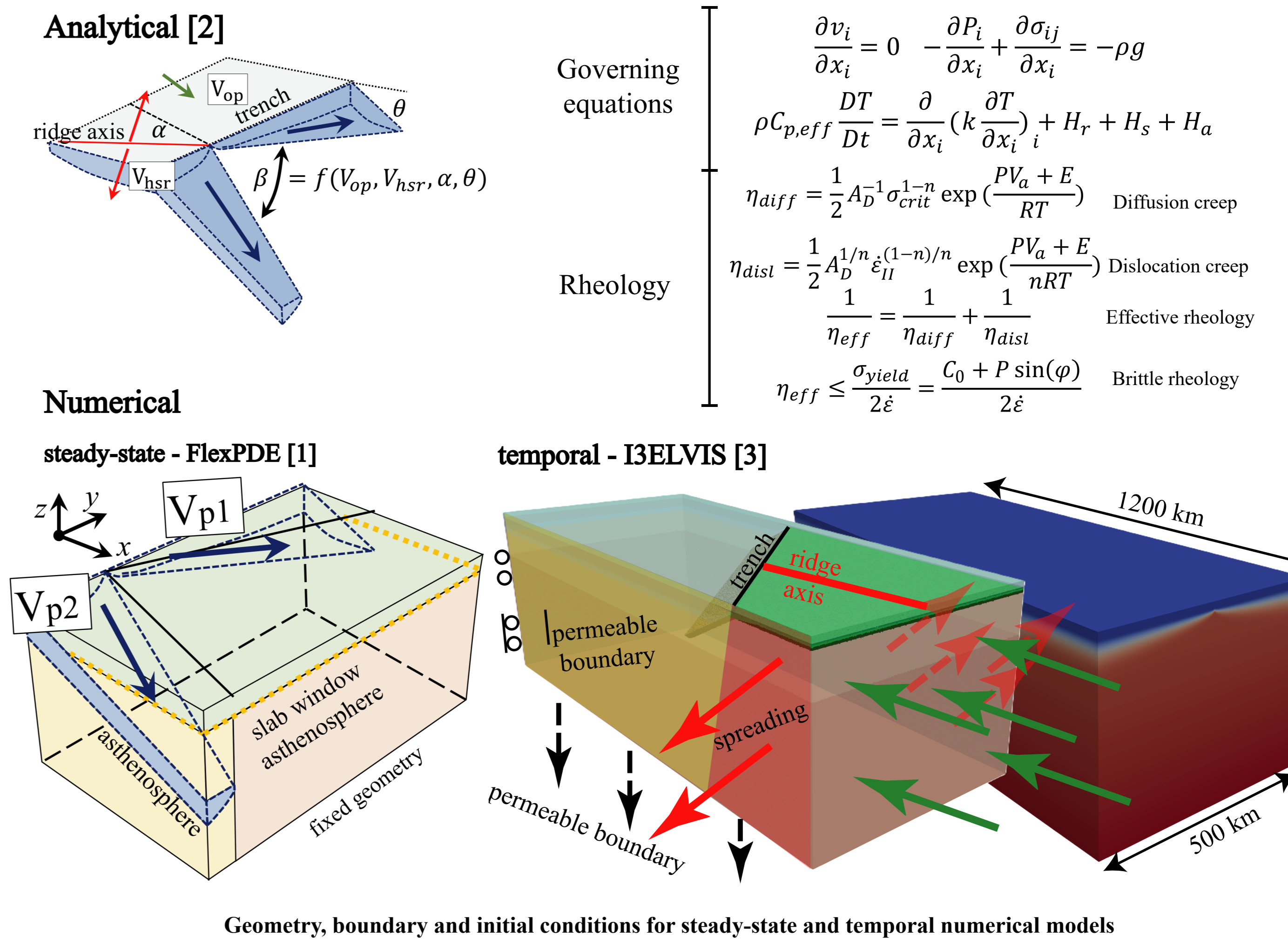
1. Motivation



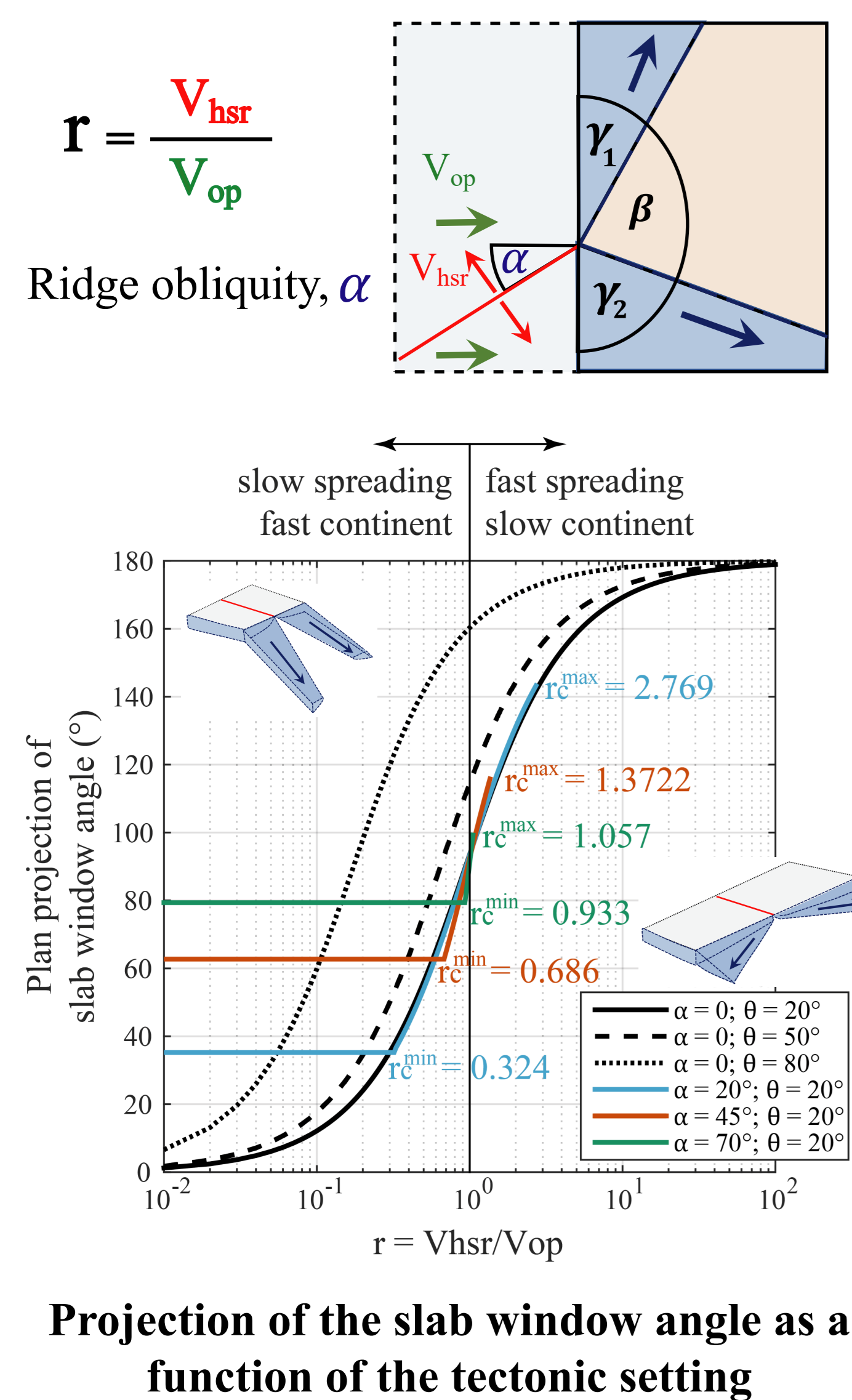
2. Slab windows in the eastern Pacific [1]



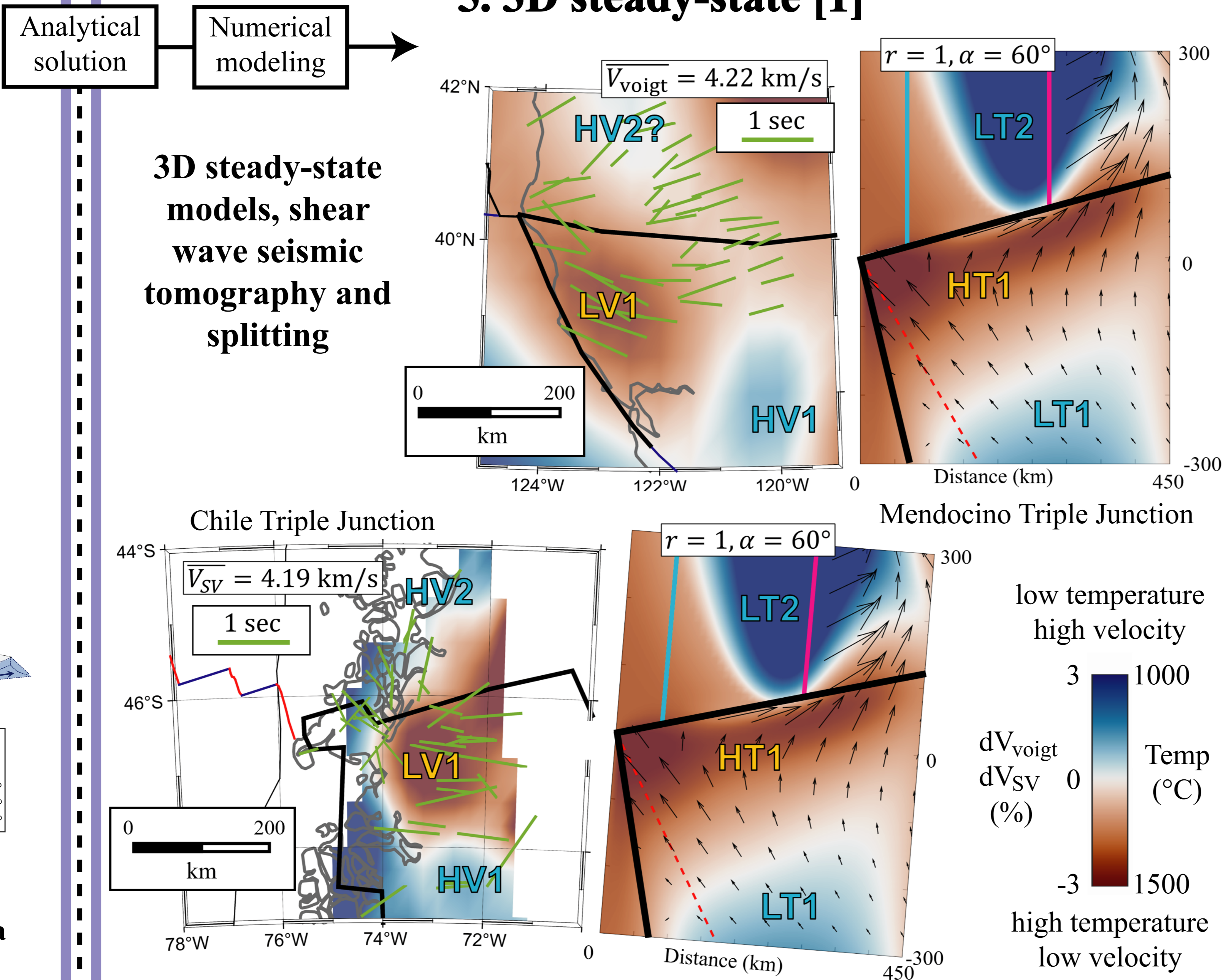
3. Analytical treatment and numerical modeling



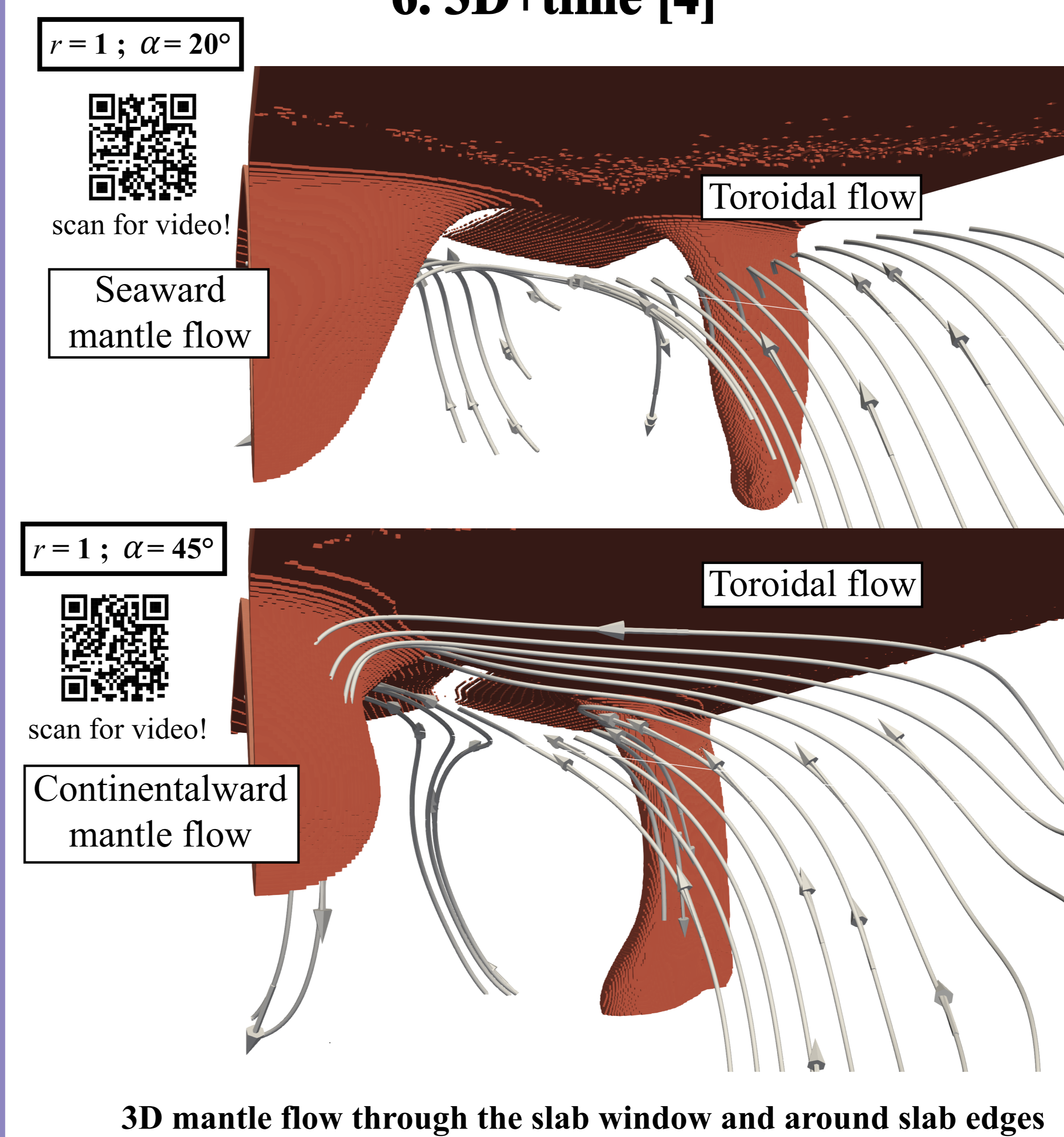
4. Slab window geometry [1]



5. 3D steady-state [1]



6. 3D+time [4]



7. Conclusions

- Both 3D models develop **upwelling** and **seaward mantle flow** near the triple junction and **toroidal flow** around slab edges.
- Temporal models develop both **seaward** and **continentalward** upper mantle flow on each subducted slab.

8. Outlook

