

Westward migration of oceanic ridges and related asymmetric upper mantle differentiation

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Combining geophysical, petrological and structural data on oceanic mantle lithosphere, underlying asthenosphere and oceanic basalts, an alternative oceanic plate spreading model is proposed in the context of the westward migration of oceanic spreading ridges relative to the underlying asthenosphere. The model suggests that evolution of both the composition and internal structure of oceanic plates and underlying upper mantle strongly depends at all scales on plate kinematics.

The accompanying slide presentation is a synthesis of our paper Chalot-Prat et al. (2017). To enhance illustration of the new model, this presentation includes figures from previous publications referenced in our paper.