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[NO SHOW] Velocity structure of the uppermost mantle beneath the tanzanian craton and the surrounding proterozoic mobile belts from pn tomography

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The uppermost mantle structure beneath East Africa is investigated by inverting the Pn traveltimes to obtain a model of P wave velocities. The previous Pn tomography models of the region have been expanded. A total of 2870 new Pn travel time measurements of local and regional earthquakes have been made and modeled, improving the resolution of the uppermost mantle velocity structure across much of East Africa. The new Pn tomography model shows variations in uppermost mantle velocities across the region which can be used to understand the size of the Tanzania Craton and the differences between the Eastern and Western branches of the East African Rift System (EARS). Results reveal fast Pn velocities beneath the Tanzania Craton, the extension of these fast velocities beneath the Mozambique Belt to the east of the craton, the Kibaran Belt west of the craton, and beneath the northern half of the Ubendian Belt to the southwest of the craton. In addition, the fast Pn velocities beneath the Western Branch everywhere contrast with the slow Pn velocities of 7.5-7.8 km/s beneath the Eastern Branch in Kenya, showing that the upper mantle beneath the Eastern Branch has been altered much more than beneath the Western Branch.

Promotional text

the study reveal fast Pn velocities beneath the Tanzania Craton, the extension of these fast velocities beneath the Mozambique Belt to the east of the craton, the Kibaran Belt west of the craton, and beneath the northern half of the Ubendian Belt to the southwest of the craton. I

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