



## **Is the Troodos ophiolite (Cyprus) a complete, transform fault-bounded Neotethyan ridge segment?**

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We report new paleomagnetic data from the sheeted dike complex of the Troodos ophiolite (Cyprus) that indicate a hitherto unrecognized oceanic transform fault system marks its northern limit. The style, magnitude and scale of upper crustal fault block rotations in the northwestern Troodos region mirror those observed adjacent to the well-known Southern Troodos Transform Fault Zone along the southern edge of the ophiolite. A pattern of increasing clockwise rotation toward the north, coupled with consistent original dike strikes and inclined net rotation axes across this region, is compatible with distributed deformation adjacent to a dextrally-slipping transform system with a principal displacement zone just to the north of the exposed ophiolite. Combined with existing constraints on the spreading fabric, this implies segmentation of the Troodos ridge system on length scales of  $\sim 40$  km, and suggests that a coherent strip of Neotethyan lithosphere, bounded by transforms and containing a complete ridge segment, has been uplifted to form the currently exposed Troodos ophiolite. Moreover, the inferred length scale of the ridge segment is consistent with formation at a slow-spreading rate during Tethyan seafloor spreading and with a supra-subduction zone environment, as indicated by geochemical constraints.