

An attempt to detection of the crustal displacement field around the Asal rift, the Afar Triangle, by SAR interferometry

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We attempt to detect the crustal displacement field around the Asal rift, the Afar Triangle, by synthetic aperture radar interferometry (InSAR). Because of the heavy tropospheric effect, the crustal displacement field along the coast is difficult to detect. Then the crustal displacement field is estimated in only inland area. The average of the crustal displacement in northeast area derived from InSAR is 14 mm shortening of slant range, and that in southwest area is 8 mm shortening of slant range. The crustal displacement difference between northeast and southwest area is corresponding to spreading rate, 13 mm/yr. This is consistent with spreading rate, 16 mm/yr, estimated from Euler vector between the Nubian plate and Danakil microplate (Chu and Gordon, 1998) within 81%.