



Aseismic slip behavior of the North Anatolian Fault, Turkey

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Although the creep along the Ismetpaşa section of the North Anatolian Fault was discovered over half a century ago, its spatiotemporal behavior has been poorly known. Measurements with GPS, InSAR and Total Station over the last two decades show a creep rate of 7 ± 2 mm/yr. However, whether slip is steady state or episodic was not widely known. Creepmeter measurements between 1982 and 1990 by Aytun and Sav (1991) illustrate that creep was occurring episodically as bursts of events. Our recent InSAR observations with Cosmo-SkyMed data with short temporal baselines confirm that slip is indeed episodic. This behavior has also been confirmed by continuous creep measurements with creep meters we installed across the Ismetpaşa and Izmit faults in 2014. Both creepmeters shows episodic creep event with long intervals of quiescence. The newly installed creepmeters will be powerful tools to examine the creep behavior along the NAF and they will be used to validate the results of on-going INSAR (Sentinel and Terra-SAR) and recently install continuous GPS studies, along the NAF.