



Traces of Right Lateral Strike-slip Active Fault from the Kangra Valley, NW Himalaya, India

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The Kangra valley located in Himachal Pradesh, NW Himalaya falls under meizoseismal zone of 1905 Kangra earthquake ($M_w=7.8$). Until now it has been suggested that a surface rupture of Kangra earthquake was along the Jawalamukhi Thrust (JMT) located to the south of Kangra valley. However, our present study from this region suggests that the 1905 rupture was along a newly identified right lateral strike-slip active fault trace striking WNW–ESE. This fault has been named as “Kangra Valley Fault”. The fault has displaced young alluvial fan surface and fluvial terrace in the Valley. Prominent offset of streams, alluvial fan surfaces and fluvial terraces are the distinct geomorphic markers indicative of recent ongoing deformation in Himalayan domain. Ground Penetrating Radar (GPR) survey and trenches excavated across 1 m high fault scarp also revealed occurrence of paleo-earthquake during recent historic period. We have been able to trace this fault for a distance of ~ 60 km. This result will play a vital role towards seismic hazard evaluation in this region.