

PLANIMETRIC AND KINEMATICS OF THE LA LAJA FAULT. SAN JUAN. ARGENTINA.

1,2PEREZ, A.M., 1PEREZ,I., 1,2ARAUJO, M., 1MONLLOR, J., 1RUFINO, C.

The M 7.4 15-01-1944 San Juan induced a 11 km-long surface rupture with 60 cm of cumulative vertical displacement along the La Laja thrust fault. Such a structure belong to the Eastern Precordillera thrust system (NE branch of the Rinconada-Las Tapias segment) displaying a total length of 120 km with north-south trend. A detailed topographic survey allowed to infer two seismic events: where the youngest one corresponds to the 15-01-1944 earthquake. Kinematics analysis of the fault striations leaded to determine a maximum horizontal stress axis located at (σ_1) 2° - N135°, an intermediate stress: (σ_2) 13° - N226°, and a minimum stress: (σ_3) 76° - N38°. A compressive stress regime with dextral component is dominant as recorded in the fault slip characteristics. It is concluded that the direction of the maximum stress nearly NW - SE is the responsible for last deformations and displacement of this structure.