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CAVE: Generates a 3D virtual scale model that users interactively manipulate.

Our system is an analytical instrument that allows users to discover meaningful patterns in massive, complex datasets, and then measure and record



Shaking effects from our analy sis of damage reports from 1751 & 1770 (Scherer, 1912) compared to 2010 values.

Our inferred pattern (yellow)

Model for the earthquake behavior of the central Enriquillo fault

- The 2010 earthquake was a relatively small event within the step between the earlier earthquakes.

- Virtual fieldwork yields evidence of protracted surface rupture between Fayette and Dumay, 33 km apart.
- An earthquake similar to, or larger than the 2010 event is possible along this portion of the fault:
- Magnitudes Mw 6.9 to 7.2 are implied by Hanks and Kanamori, 1979, using 40-60 km rupture with mean slip of 2-3 m (Prentice et al., 2010)

• This is the first reported use of data visualization in an immersive virtual-reality environment to analyze

• The advanced methods of virtual-reality based data visualization we report here enable virtual field stud-

Krevlos et al., 2008, Adv. Vis. Comp. ISVC 2008 Lec Notes Comp. Sci., p. 846.

Hanks and Kanamori, 1979, J. Geoph. Res., v. 84,

Manaker et al., 2008, Geoph. J. Int., v. 174, p.

Mann et al., 1995, Tectonophysics, v. 246, p. 1. Mann et al., 2002, Tectonics, v. 21, p. 1057. Prentice et al., 2010, Nat. Geosci., v. 3, p. 789. Scherer, 1912, Bull. Seis. Soc. Am., v. 2, p.

Reterences: