

**On rebuilding landslide parameters from long-period seismic waveform inversion**

Xiao Wang<sup>1</sup>, Xinghui Huang<sup>1,2\*</sup>, Po Chen<sup>2</sup>, Lei Xu<sup>3</sup>, Heng Wang<sup>4</sup>, Wenzhe Deng<sup>1</sup>, Dan Yu<sup>1</sup>,  
Zhengyuan Li<sup>1</sup>, Qiang Xu<sup>5</sup>

<sup>1</sup>China Earthquake Networks Center, Beijing, China

<sup>2</sup>Department of Geology and Geophysics, University of Wyoming, Laramie, United States

<sup>3</sup>The 7<sup>th</sup> Institute of Geology & Mineral Exploration of Shandong Province, Linyi, China

<sup>4</sup>Center for Economic Geology Research, University of Wyoming, Laramie, Wyoming, United States

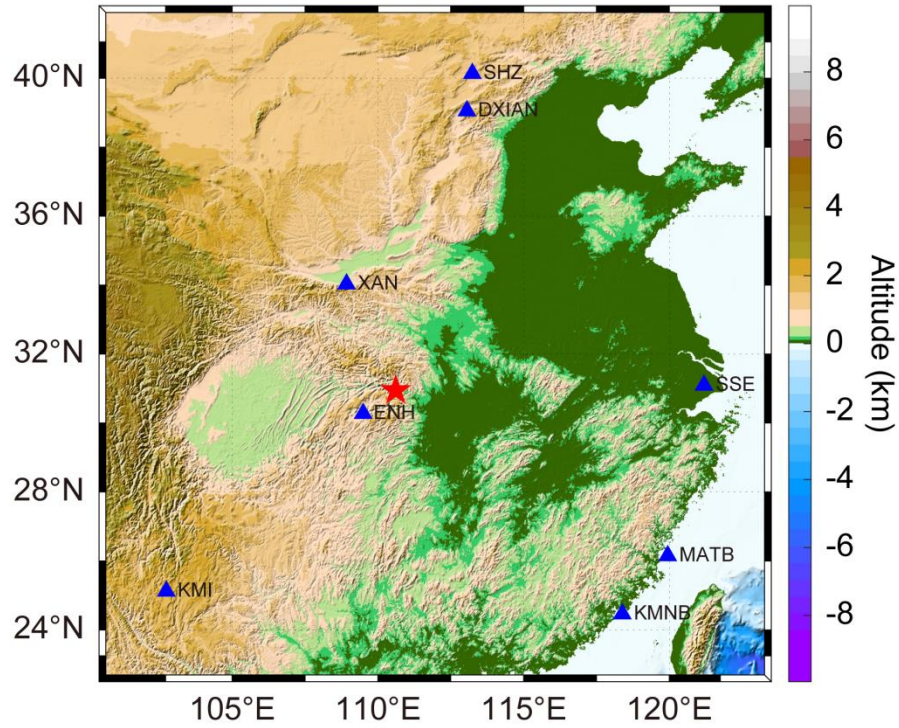
<sup>5</sup>State Key Laboratory of Geohazard Prevention and Geoenvironment Protection, Chengdu University of  
Technology, Chengdu, China

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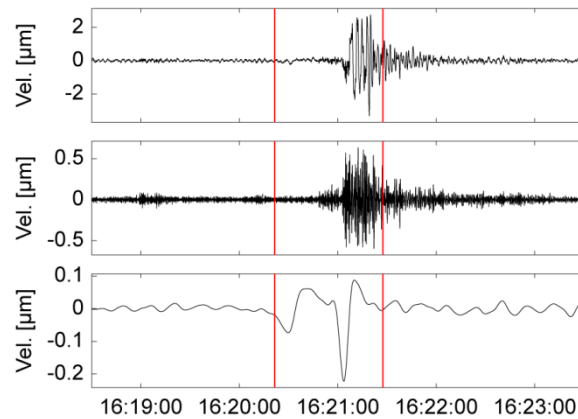
Figures S1 to S7

**Introduction**

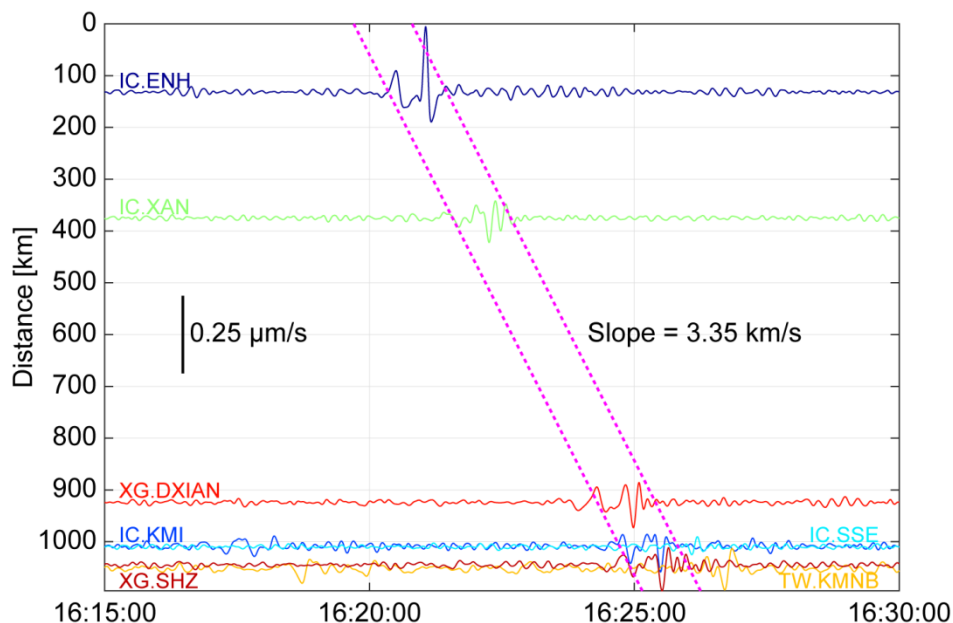
This supporting information provides seven additional figures.



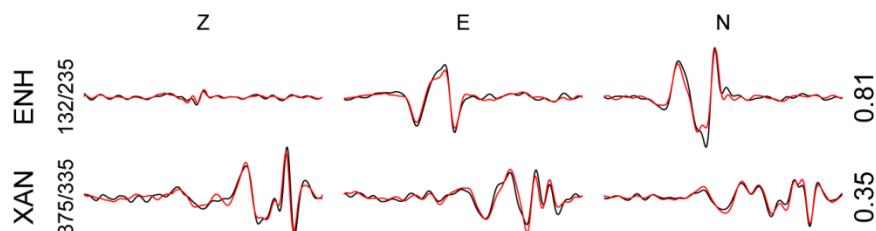
**Figure S1.** Location of seismic stations used in the study (blue triangles) and the landslide (red star).



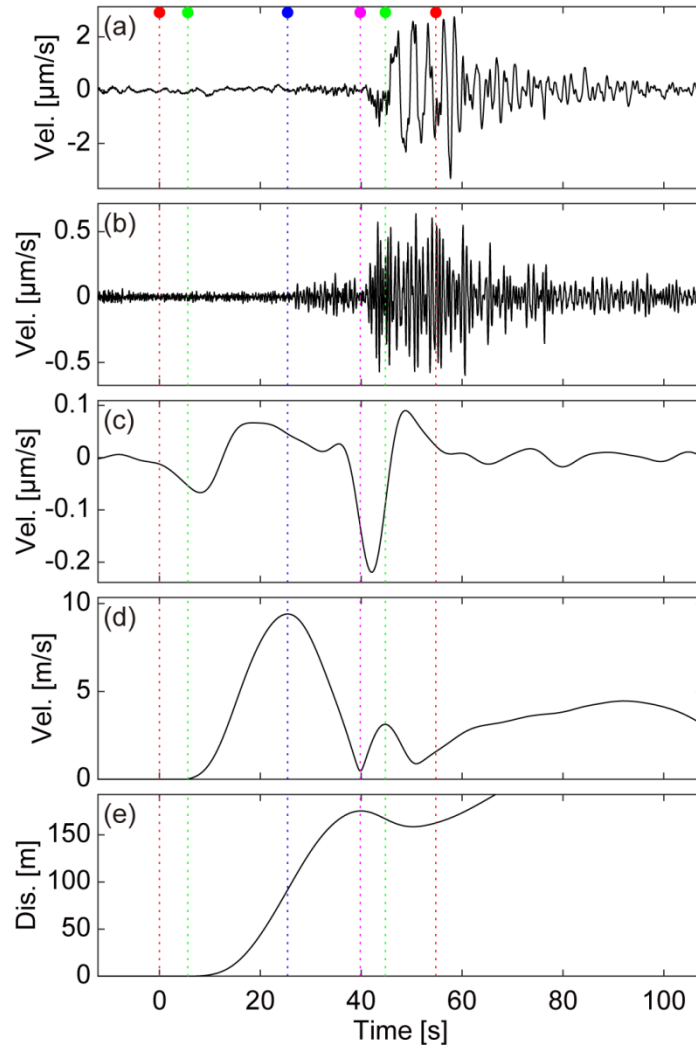
**Figure S2.** Broadband seismic records for the Qianjiangping landslide at the ENH seismic station. Original record, high-pass filtered record at 1 Hz, and low-pass filtered record at 0.1 Hz are provided from top to bottom. Red vertical lines show start and end times of the event recognized from low-pass filtered seismic records.



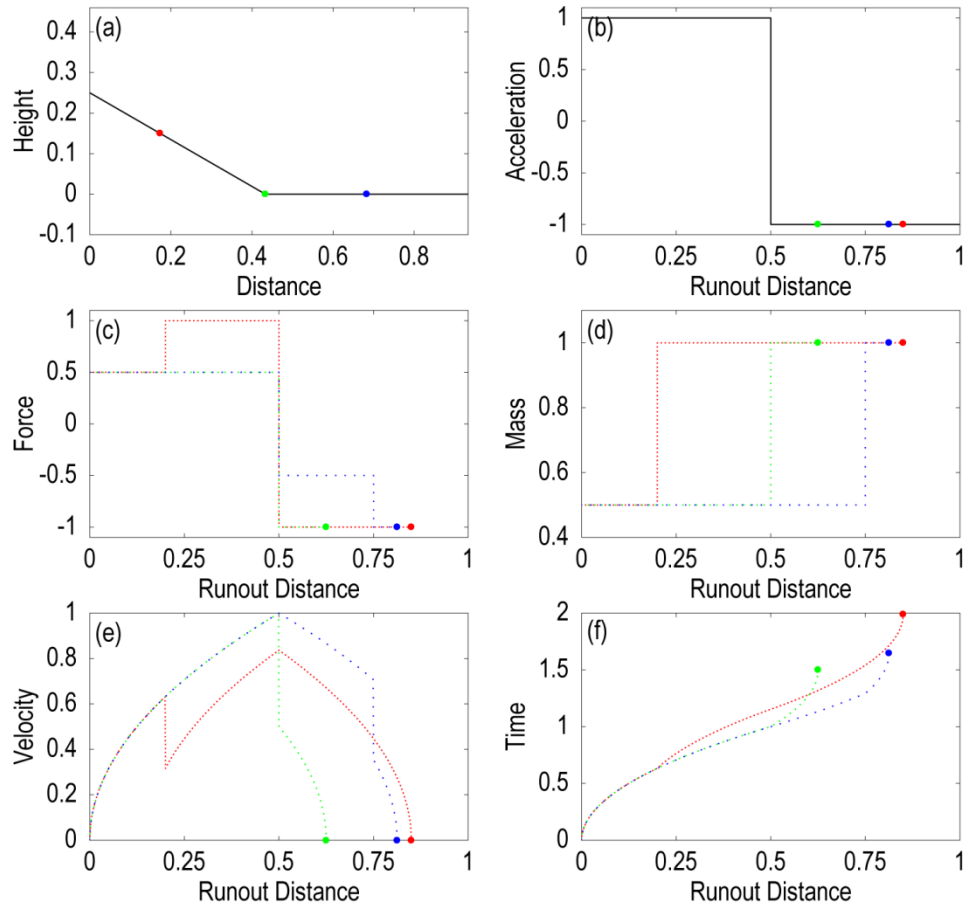
**Figure S3.** Seismograms recorded at seismic stations in the surrounding area of the landslide and filtered using a frequency band of 0.01 – 0.1 Hz. The magenta dashed lines give the start and end times of the event on seismograms. The propagation velocity is estimated to be 3.35 km/s.



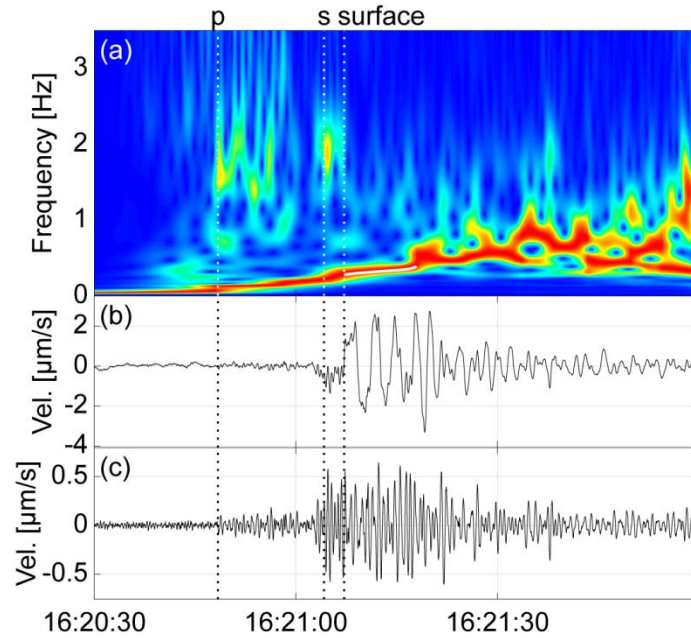
**Figure S4.** Recorded (black lines) and synthetic (red lines) seismic waveforms. Station name and distance (km)/azimuth (degree) are given at the left of each trace. The maximum amplitude of the three components is given in  $\mu\text{m}$  to the right of the traces.



**Figure S5.** (a) East-West component seismic record of the ENH station, the nearest station from the landslide; (b) 1 Hz high-pass filtered seismic record; (c) 0.1 Hz low pass filtered seismic record. Estimation of absolute velocity (d) and displacement (e) of the sliding mass from inverted landslide force history.



**Figure S6.** (a) the schematic map of the slope model; (b) accelerations for speed-up and slow-down phases; (c) force, (d) mass, (e) velocity, and (f) time distributions along runout distance when the entrained mass is put at runout distances of 0.2, 0.5, and 0.75, respectively, denoted using red, green, and blue dashed lines and solid circles.



**Figure S7.** (a) Time-by-time normalized S-Transform spectrogram for the East-West component seismic record at the ENH station; (b) the East-West component seismic record at the ENH station; (c) 1 Hz high-pass filtered seismic record.