

Data Repository 2009065

Walter

Data Repository Item DR1

moment[N*m]	ref_lat[deg]	ref_lon[deg]	ref_dep[m]	length[m]	width[m]
strike[deg]	dip[deg]	rake[deg]	dstmax[deg]	ddimax[deg]	dramax[deg]
lsubmax[m]	lsubmin[m]	xstart[m]	ystart[m]	tstart[s]	v_rup[m/s]
mdis	dstep[m]				
9.1d+17	38.44	13.78	15000.0	5000.0	2000.0
251.0	53.0	112.0	5.0	5.0	10.0
1500.0	100.0	1000.0	1000.0	0.0	2000.0
0	500.0				

Table DR1. Summary of model parameters used in the semi-analytical code "qscmp06" to calculate synthetic seismograms by (Wang, 1999). Computer code is available by request from the coauthor Wang.

Data Repository Item DR2. The Palermo earthquake occurred on 6/9/2002 with a magnitude 6.0 north of Sicily and was followed by a sequence of aftershocks and volcanic activity.

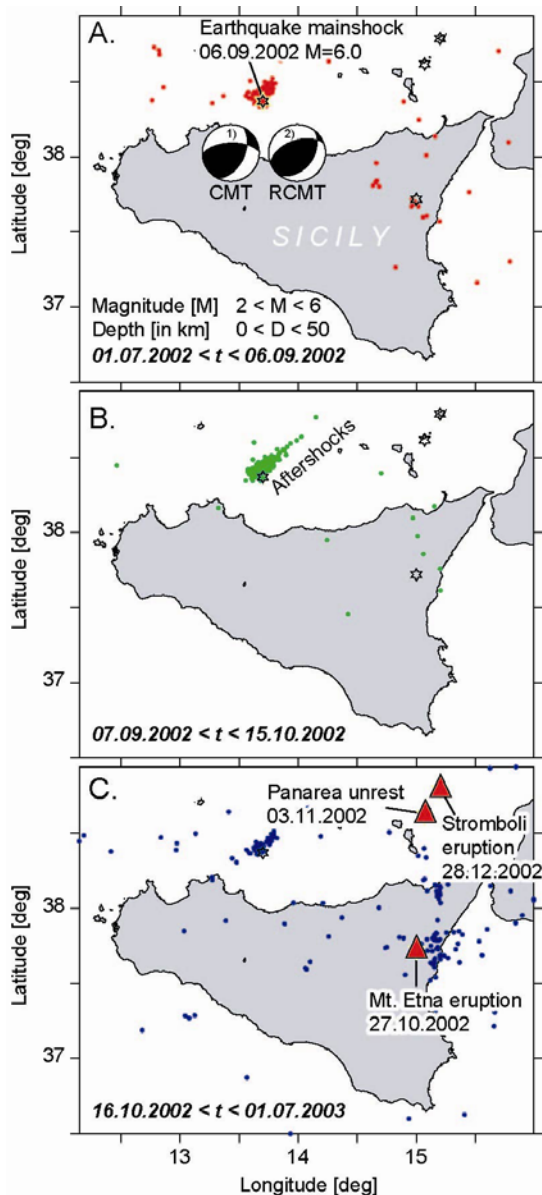


Figure DR1. Sequence of seismicity. A. Mainshock with focal mechanism solutions as provided by CMT and RCMT. Seismicity between 1.07.2002 and 06.09.2002. B. Aftershocks indicate rupture plane striking SW-NE, between 07.09.2002 and 15.10.2002. C. Seismicity between 16.10.2002 and 01.07.2003 shows events near Mt. Etna and along the Malta escarpment striking between the Aeolian Islands and Mt. Etna. A general plate tectonic reorganization is not evident in seismicity prior to volcanic eruptions.

Data Repository Item DR3. Earthquake mainshock waveform as recorded at the considered locations.

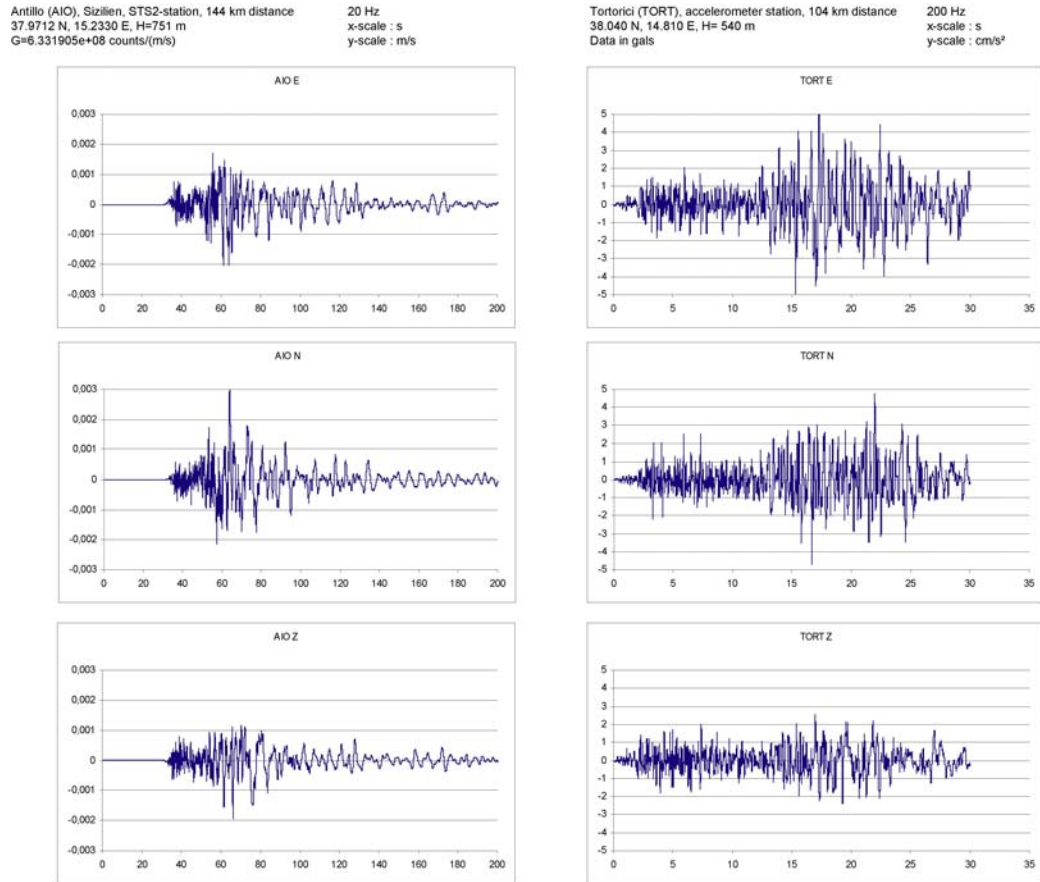


Figure DR2a. Three components of the mainshock were directly recorded near the small Sicilian towns Tortorici (TORT) and Antillo (AIO). Station TORT is an accelerometer station, located at 38.040°N 14.810°E, H= 540 m. Station AIO is part of the MedNet network, located at 37.9712°N 15.2330°E, H=751 m, with G=6.331905e+08 counts (m/s).

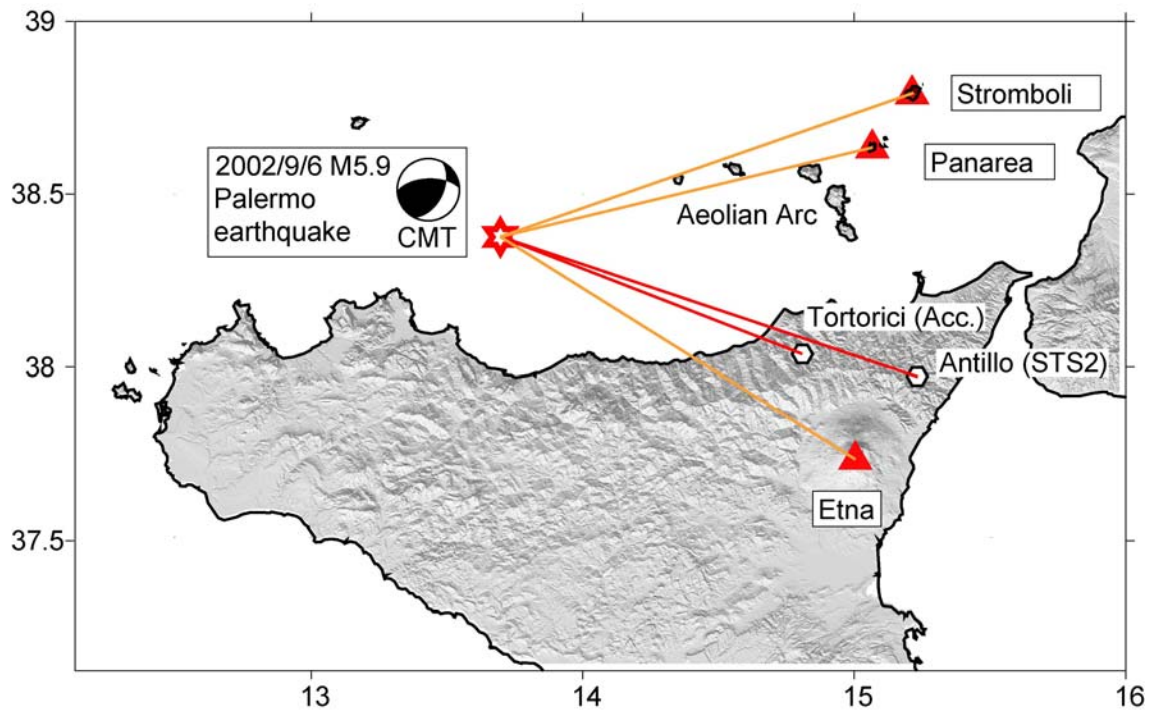


Figure DR2b. Upon production of the synthetic seismograms, synthetic pressure variograms were simulated at volcano locations: (a) Mt. Etna, summit elev: 3350 m, latitude: 37.734°N, longitude: 15.004°E, (b) Panarea, summit elev: 421 m, latitude: 38.63°N, longitude: 15.07°E, and (c) Stromboli, summit elev: 924 m, latitude: 38.789°N, longitude: 15.213°E.