

Quick assessment of the fault plane, for the recent strike-slip event in the North-Western Peloponnese, Greece (8 June 2008, Mw 6.3)

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Based on previous testing of the so-called H-C method on the M6.2 Leonidio earthquake (see the report on this web page, http://www.emsc-csem.org/index.php?page=current&sub=recent&evt=20080106_GREECE), we issue a quick assessment of the fault plane for the most recent Mw6.3 earthquake in Northwestern Peloponnese (20080608 at 12:25:27 UTC). This case, with both fault planes dipping very steeply, is relatively easy for the H-C method because inaccuracies of the hypocenter (H) depth are not as critical. Almost the same strike, dip and rake have been determined by different agencies. Moreover, the epicenter seems to be determined with a relatively small variation among the most relevant agencies: 37.93 and 21.41 (NOA), 37.94 and 21.54 (THE), 37.93 and 21.52 (UPSL).

Using hypocenter (H) from UPSL in such a way that we take the UPSL epicenter and vary the focal depth, and combining it with the CMT solution of INGV, the source is significantly closer to the nodal plane striking at 210° than to the other plane striking at 300°. Therefore, the preliminary fault-plane identification is the nodal plane with strike 210°, dip 85°, rake 179°, i.e. **the right-lateral strike-slip fault**. The same evidence comes from adding the epicenter of THE and combining with the CMT solution of HRV.

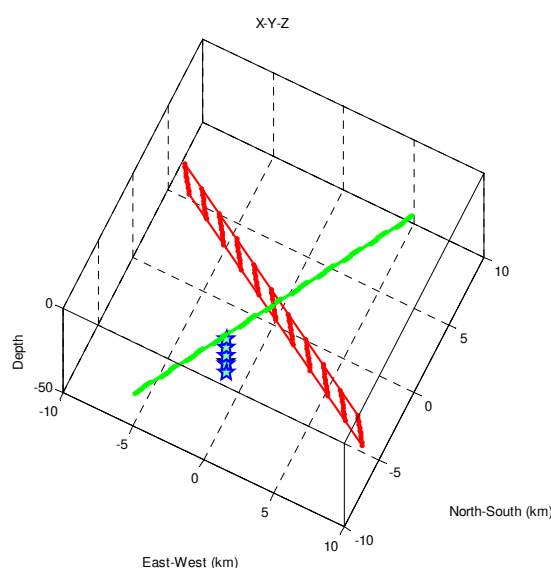


Figure 1. H-C Plot using the UPSL epicenter and varied depth (stars), and the CMT solution of INGV. The C is in the middle of the two crossing nodal planes. The plane plotted in green is the likely fault plane. The North-South axis is positive to North, the East-West axis to East.

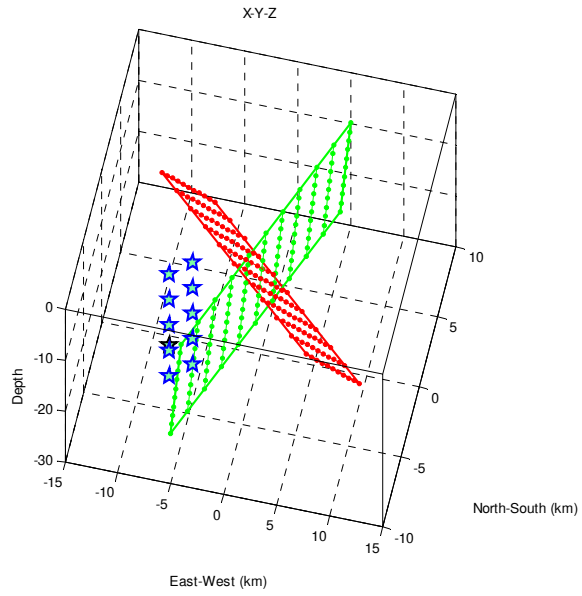


Figure 2. H-C Plot using the UPSL and THE epicenters (with varying depth), and combining it with the CMT solution of HRV.

The above results although very preliminary, are in good agreement with the up to now aftershock distribution.