

## **ES3/P12/ID87 - AN IMPORTANT NUMBER OF RECENT SIGNIFICANT EARTHQUAKES IN GREECE**

*P. Papadimitriou<sup>1</sup>, A. Agalos<sup>1</sup>, A. Moshou<sup>1</sup>, V. Kapetanidis<sup>1</sup>, A. Karakonstantis<sup>1</sup>, G. Kaviris<sup>1</sup>, I. Kassaras<sup>1</sup>, N. Voulgaris<sup>1</sup>, K. Makropoulos<sup>1</sup>*

*<sup>1</sup>Department of Geophysics, University of Athens*

Greece is characterized by high seismicity mainly due to the collision between the European and the African lithospheric plates. During the recent years strong earthquakes occurred in regions with different seismotectonic regimes. Moment tensor inversion was applied to determine the source properties, as well as the dynamic processes of these events. Waveforms recorded in teleseismic distances were used and P, SH and SV synthetic waveforms were calculated for the selected stations. The final solution is obtained by minimizing the difference between the observed and the synthetic waveforms. The obtained source parameters were compared to the seismotectonic characteristics of each seismogenic area. Slip models that were determined for the important events were used to compute the Static Coulomb Stress Changes. This computation was performed in order to examine possible stress transfer to a neighboring area or to explain the spatial distribution of certain aftershock sequences. No static stress transfer was revealed to the epicentral area of the 2008 Leonidio earthquake due to the occurrence of the 2006 Kythira earthquake. On the other hand, the aftershock distribution of the 2008 Andravida earthquake extended to an area significantly larger than the one expected according to the magnitude of the main event. On February 2008 an earthquake sequence including three strong events ( $M_w=6.7$ , 6.1 and 6.0) occurred South of Methoni, at a segment of the Hellenic arc which was not activated during the instrumental period. This sequence was followed by a large number of aftershocks, the strongest of which were processed to calculate their source parameters. The most recent significant events occurred north of Rhodes on 15 July 2008 ( $M_w=6.3$ ) and south of Crete on 1 July 2009 ( $M_w=6.2$ ). The first occurred at a depth of 55 km, was characterized by strike-slip faulting and followed by few aftershocks. On the contrary, the second one was followed by an important aftershock sequence with focal depths in the range of 10-30 km. The Crete earthquake was characterized by thrust faulting. Even though most of the above earthquakes are related to the Hellenic Arc, they are characterized by different seismotectonic features and stress regimes.