

DISPERSION CURVES FOR THE DODECANESE - ATHENS PATH INFERRED FROM RAYLEIGH WAVES

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Ten records of Rayleigh waves generated by earthquakes in the area SE of Carpathos Island (Greece) and recorded by the vertical component of the long period seismograph of station ATH (Athens) were used to obtain the dispersion curves for a propagating path crossing the Hellenic Arc at 90^o.

The signals were analyzed in the frequency domain for periods within the range of 8 to 80 seconds. Analysis for each seismogram includes digitization, interpolation and baseline correction, removal of the instrument response, determination of the spectral Fourier amplitude as well as the calculation of the group velocity. Spectral amplitude and group velocities were estimated using a computer program written by Burton and Blamey (1972) based on the multiple filter technique of Dziewonsky, Bloch and Landisman (1969). The dispersion curve was determined for each seismogram and the mean curve for the propagating path was obtained with a statistical uncertainty for each period.

Group velocity varies between 2.2 and 5.0 km/sec and generally increases with period. The average curve was compared to the summarized curves given by Oliver (1962) and could characterize a surface sedimentary layer, rather thick, overlaying a continental structure, which at its deepest part shows a possible contamination by oceanic material. This description is in agreement with the results obtained by other investigators.

SOME PROPERTIES OF FORESHOCK SEQUENCES IN THE AREA OF GREECE

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The probability that a shallow main shock will be preceded within 1 day, 10 days or 1 month by its largest foreshock or its second largest foreshock is approximately 60%, 30% and 15%, respectively. This conclusion reconfirms previous results and is based on a larger data set. The temporal distribution of the foreshock frequency of occurrence