

SEISMIC REFRACTION PROFILES BETWEEN CYPRUS AND ISRAEL  
AND THEIR INTERPRETATION  
(Invited paper)

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A long seismic refraction profile was carried out between southern Israel and Cyprus. The seismic energy was generated by 33 sea shots each of 0.8 t explosives and was recorded by land stations in Israel and Cyprus and by ocean bottom seismographs deployed along the profile.

The results showed that the continental crust of southern Israel thins towards the Mediterranean Sea underneath a northward thickening sedimentary cover. Cyprus is underlain by a 35km thick continental crust thinning southwards and extending to Mt. Eratosthenes. Between Mt. Eratosthenes and the Israel continental shelf the crystalline crust is composed of high velocity ( $6.5 \text{ km s}^{-1}$ ) material and is about 8 km thick. It is covered by 12 to 14 kms of sediments and may represent a fossil oceanic crust.

A comparison of these results with a seismic line observed between Crete and Egypt showed that the structures along both lines differ significantly. The crustal structure along the Crete-Egypt line is composed of continental crust and the sedimentary thickness is less developed than along the Cyprus - Israel line.

From the existing available information it may be deduced that the deep basins of the Eastern Mediterranean Sea are floored by a fossil oceanic crust, whereas the Mediterranean ridge and particularly the area between Crete and Egypt are floored by continental crust.

