



Crustal structure in the P2 Segment of the Phoenix-Antarctic Ridge

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Gravity and bathymetric data collected by the Spanish R/V Hespérides in the ANTPAC 97/98 cruise over the central segment (P2) of the Phoenix -Antarctic Ridge were used to obtain the deep 3-D structure of the crust. Moreover, data from the Global Gravity Grid and Global Sea Floor Topography database were incorporated into the study. The water layer contribution to the gravity anomaly was eliminated taking into account bathymetry. Sediment accumulation is not important in the area because of the presence of the Antarctic Circumpolar Current. Spectral analysis of the gravity data and inversion procedures were applied to obtain the crustal-mantle interface irregularities. Mean depths of 7-9 km for the crustal- mantle interface were obtained from the spectral analysis of the reduced data. Afterwards, the topography of this interface was calculated from the inversion of the regional anomaly data. Results are discussed in relation to the fossil spreading axis evidenced in the bathymetry.