5.10 DETERMINING THE STRUCTURAL FEATURES OF THE GULF OF ANTALYA AND ITS OFFSHORE BY USING GRAVITY-MAGNETIC METHODS

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ABSTRACT

The geophysical modeling study of the Gulf of Antalya and its offshore was conducted by combining both seismic and gravity-magnetic methods in order to reveal regional structural features of the area. Gravity and magnetic methods are used for differentiating geological units with their density and susceptibility differences. These methods have been used to designate base topography, structure, depth, location of magmatic intrusions, and tectonism in the study area.

This study aims determining fault trends of the region and Mesozoic age autochthonous and allochthonous units of the offshore Antalya Neogene Basin. In addition to that, the purpose of this study is identifying the boundary and thicknesses of ophiolitic units by using these magnetic data sets. Three models (two of them are East – West, one of them is North – South) were created to be utilized in the study area. In this model, it has been observed that there was a difference in susceptibility in the region interpreted as ophiolite. In other regions (the magnetic anomaly shows little change) the sedimentary thicknesses display some variations.

KEY WORDS: Gulf of Antalya, Gravity-Magnetic methods, Mesozoic