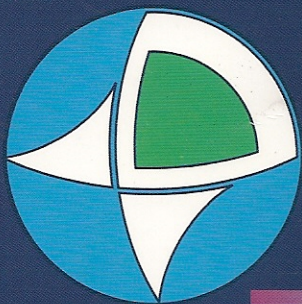


Under the aegis of the President of the Hellenic Republic

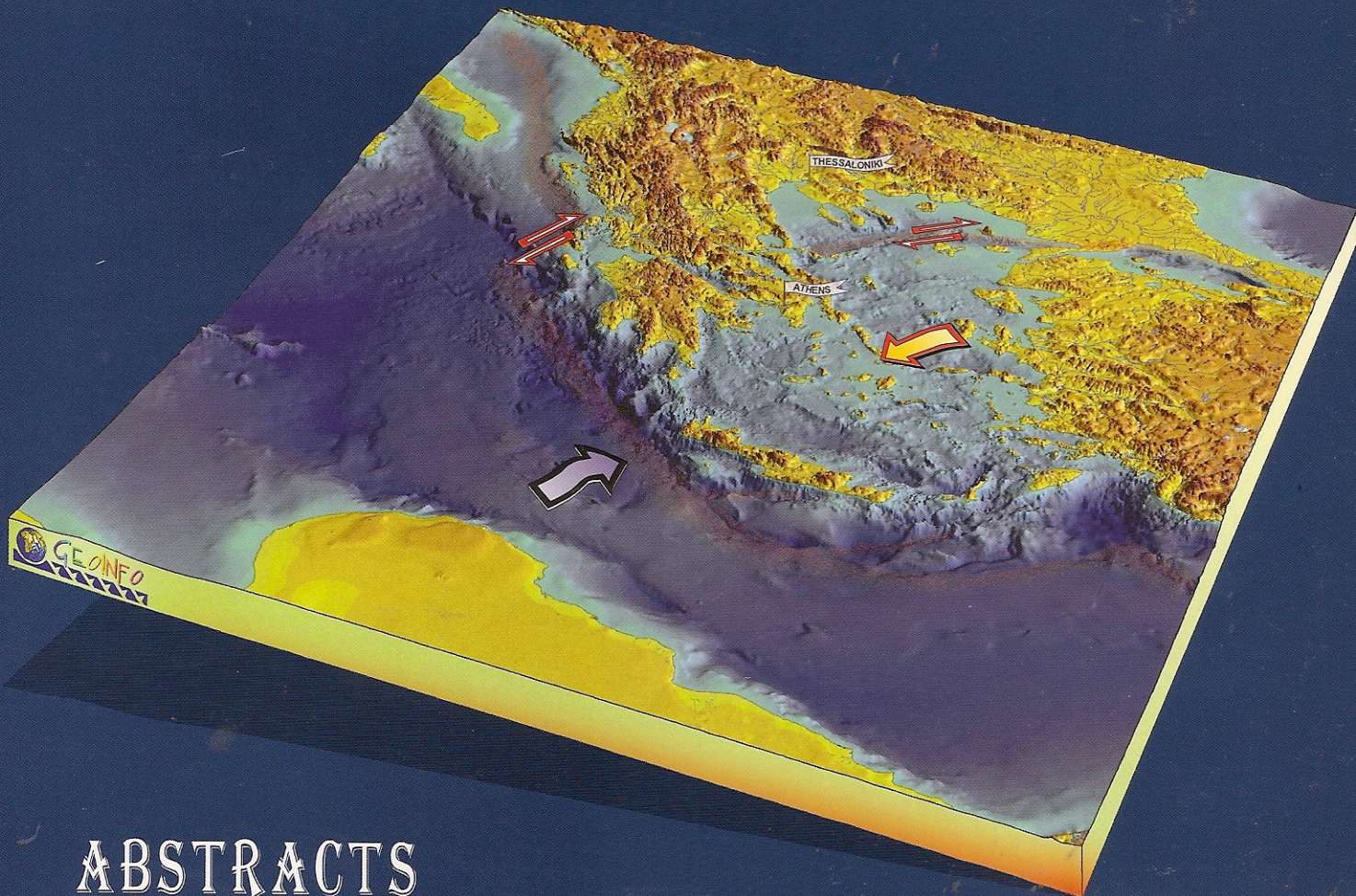


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ABSTRACTS

1793 Preliminary Lithospheric Structure Beneath the Corinth and Evvia Rifts System (Greece) From Teleseismic Travel Time Residuals

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The Corinth and Evvia rifts are two major continental extensional structures, rapidly deforming at present (1.5 cm/yr of extension across the Gulf of Corinth). In order to understand the mechanisms involved in this large scale extension and in complement to on going study of the upper crust, we performed a seismological experiment to image the lower crust and upper mantle beneath this area.

From June till December 1996 a seismological temporary network of 40 stations was operating. Stations was installed along two 180 km long profiles crossing the gulfs of Corinth and Evvia with 10 km spacing. The western profile was equipped with continuously recording stations and large band seismometers (20 s) allowing for clear S wave recordings. Over 100 teleseismic events were recorded by the network.

P, PKP and S wave travel time residuals on the two profiles will be used to constrain the lower crust and upper mantle structure. We will present here the first results from this analysis.

1857 Seismic Velocity Distribution Project of Western Turkey and Surrounding Area: Preliminary Results and Future Studies

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A major objective of this project is to understand lithospheric structure and active tectonics of western Turkey and surrounding area by a detailed seismic investigation. In the methodology of this study, various seismological methods have been applied to different data sets, such as the time-distance curves and synthetic seismogram modeling of the local earthquakes, station delays and tomography methods for teleseismic earthquakes, two dimensional modeling and p - τ inversion method for explosion experiments. All available seismic explosion and earthquake data as well as the current geological information were integrated with the new data which was collected under this project. In the experimental part of this study, numerous seismic refraction studies were carried out and 14 digital data recording systems were developed for future seismic refraction studies. This instrument is a digital dat (Digital Audio Tape) tape recording system which has two hours recording duration, furnished with GPS time receiver.

Evaluation of all available seismic information from the region indicate that; a high velocity image associated with the Hellenic subduction zone clearly appears and extends deeper than the seismically active parts (≈ 250 km) of the subducted slab. According to the local earthquake data, the P_g velocity values change from 5.50 to 5.90 km/s and P_n velocity values are in the range of 7.7 and 7.9 km/s in the regions of the Aegean sea, central and south western Turkey and Greece. Earthquake data and explosion experiments indicate higher P_n velocity values (≈ 8 km/s) in the Marmara region than in its surroundings.

2559 A Tomography Imaging in the Mantle of the Alpine Orogens belt and Flanked Tectonic Zones into Terrane from Iberia to the Himalayas

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New large scale 3-D P-velocity models of the mantle beneath the Alpine orogens belt and flanked tectonic zones into terrain from Iberia to the Himalayas (sector $20^\circ\text{W} - 80^\circ\text{E} \times 30^\circ - 50^\circ\text{N}$) to 850 km depth and more has been reconstructed. Examined area covers the eastern margin of the Atlantic fringing Iberia and northwestern Africa, the Southern Europe, Mediterranean, northern coast of Africa, Asia Minor, Near East, Black Sea, Caucasus region, Caspian Sea, Kazakhstan, Middle Asia, northern India and northwestern China. As initial data have been exploited the set of first-arrival times of P-waves from strong earthquakes and explosions. For data recovering has been employed a new traveltimes tomography method proposed by V. Geyko that compared to the usual linearization method distinguishes the considerable preferences. The following solid mantle properties of the explored terrain have been explained. 1) The mantle falls into the two shells by the global boundary situated at 550-680km depth. The upper shell (tectonosphere) is notably inhomogeneous laterally, while the lower one is almost radial-symmetric (deeper than 750-780km). 2) Major tectonic structures found contrast image into velocity inhomogeneities of the reconstructed model also as are located and traced sutures and boundaries between great structures. The clearly expressed sutures are greatest from there the suture between the EEP and Turanian plate and the Palaeozoic. Mesozoic structures of Western and Central Europe and the Alpine structures in the south-east, suture between the northern border of the African platform and the Alpine structures of the Atlas and Mediterranean and between the African platform and the structures of the Anatolian and Caucasus-Iranian segments of the Alpine orogens. 3) Age and genetic type of the tectonic structures reflect in the thickness and structure of the tectonosphere. The tectonic structures of the first order (plates) have "roots" piercing full the tectonosphere, while those of higher order are clear-cut in the upper and unclear in the lower tectonosphere. 4) The intermediate boundary into tectonosphere situated at 390-450km depth and the asthenosphere are not global.

1115 Geodynamic Evolution of Southern Thrace and Northern Biga Peninsula (NW Turkey) by Means of Paleomagnetic Data

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Investigation area is bounded by Thrace, south of Marmara Sea and north of Edremit Gulf in Turkey. The aim of this study is to make a contribution to the geodynamic evolution of this area in the light of paleomagnetic data. In Thrace, there are the volcanic rocks to be formed by three different tectonic regimes. First rock group is upper Eocene-upper Oligocene aged calc-alkaline volcanic rocks that originated by collision tectonics. Second one is Upper Miocene aged rocks which are originated from crustal and mantle materials. Final group is Plio-Quaternary aged alkali-basaltic rocks which are coming from mantle.

Totally 198 drilled core samples from 26 sites were collected. Thermal and A.C. demagnetization techniques were applied to the samples and their secondary magnetizations were cleared. Remnant magnetization directions obtained from Oligocene aged sites are convent with each other. While remnant magnetization directions obtained from Miocene aged rocks from Gelibolu Peninsula, Bozcaada Island and Biga Peninsula are shown anti-clockwise rotations. The clockwise and anti-clockwise rotations are obtained in Thrace. These rotations are related with the compression and extension regime around the Hisarlidag rise and Korudag anticlinorium. Anti-clockwise rotations of 35 degree from Middle Miocene aged rocks in Biga Peninsula are due to the block rotations which are concerning both of movement of the North Anatolian Fault Zone and N-S Extension in Aegean Region.

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