

WORKSHOP
NEMO - NumERical MOdelling using high performance computing
infrastructures

10 - 11 june, 2013
Solid Earth Dynamics Department,
Institute of Geodynamics of the Romanian Academy, Romania.
Jean-Louis Calderon str. 19-21 nr. sector 2, Bucharest

1) PRESENTATION TITLE:

Lowermost mantle velocity estimations beneath Central North Atlantic area from Pdif observed at Balkan and East Mediterranean stations

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3) ABSTRACT:

Lowermost mantle velocity in the area 10° S – 65° N latitude / 60° W – 5° W longitude is estimated using two groups of observations, complementary to each other. There are 735 Pdif observations at stations in Balkan and Eastern Mediterranean area from 14 major earthquakes in Central and South America. Other 218 Pdif observations are associated to four earthquakes in Greece/Turkey and one event in Africa, recorded by stations in United States and Central and South America. A Pdif slowness tomographic approach of the structures immediately above core-to-mantle boundary (CMB) is used, incorporating corrections for ellipticity, station elevation and velocity perturbations along the ray path. A low velocity zone above CMB with large geographical extent, approximately in the area [35-65N] x [40-20W], appears to have the velocity perturbations exceeding the value actually assumed by some global models. Around [20° N;30° W], a high - velocity area is observed. The results suggest both Cape Verde and Azores Islands are both located near transition areas from low-to-high velocity values in the lowermost mantle.

4) POSITION OF CORRESPONDING AUTHOR:

Student	yes	no
Post-Doctoral	yes	no
Professor, Researcher	yes	no