

CELEBRATION 2000: TRANS-CARPATHIAN SEISMIC PROFILE CEL05 FROM PRECAMBRIAN PLATFORM TO PANNONIAN BASIN

CELEBRATION Working Group (Reporter M. Grad^{1*})

Institute of Geophysics, University of Warsaw, Pasteura 7, 02-093 Warsaw, Poland;
mgrad@mimuw.edu.pl

Key words: CELEBRATION 2000, crustal thickness, East European Craton, Carpathians

A large seismic experiment CELEBRATION 2000 targeted the deep structure in the Central Europe, between the Phanerozoic and Proterozoic European crustal domains. Detailed system of seismic measurements along 1400 km long profile CEL05 permitted to determine details of the crustal structure of the East European Craton, TESZ including Holy Cross Mnts. and Malopolska block, Carpathians and Pannonian basin. The crustal thickness beneath profile CEL05 is changing from about 43-47 km beneath East European Craton to about 30-40 km beneath Palaeozoic Platform and Carpathians, and 24-28 km only beneath Pannonian basin. Depth of the consolidated basement with velocity $V_p > 6.0$ km/s is changing from 1-3 km beneath East European Craton to about 5-8 km beneath Pannonian basin, reaching up to 10-18 km in TESZ and Carpathians. East European Craton has a typical thick, three-layer crystalline crust structure (with velocities 6.1-6.4, 6.5-6.6 and 6.8-6.9 km/s, respectively), while in the Carpathian-Pannonian area thin crust is characterized by relatively low V_p velocities (6.1-6.4 km/s in the upper crust and 6.4-6.6 km/s in the lower crust). The velocity in the uppermost mantle is 8.1-8.25 km/s beneath East European Craton and 7.8-8.0 km/s beneath Carpathian-Pannonian area. These results are discussed with other seismic profiles from the area (EUROBRIDGE, P3, P4, TTZ and others).

* Presented by T. Janik