



DETAILED WIDE-ANGLE REFRACTION-REFLECTION SURVEYS IN FRAME OF THE ALP2002 INTERNATIONAL LITHOSPHERIC PROGRAM

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As a part of the ALP 2002 international controlled source wide-angle seismic program, two special high density surveys were carried out to investigate in a more detailed way two small segments of the Pannonian Basin. One of the high resolution survey areas located near to the eastern edge of the Pannonian depression (Nyírség region). Here an area of about 600 km² was covered with single channel 830 Texan and 173 PRS recorders in a 3D layout. The average areal spacing was about 1 km, as sources 35 shots were fired with charges varying from 50 to 200 kg in a depth of 70 m.

The processing of the data was based on the principles of seismic refraction tomography. Primary input data were the first arrival times of the records and the algorithm applied for the computation is that of Zelt developed and published in 1998.

Preliminary results show that the seismic signals clearly image the shallow Neogene intrusive volcanic bodies whose existence was predicted from the data of the nearby lines of the CELEBRATION2000 project. The seismic tomographic results were compared to the gravity and magnetic maps of the area and a surprisingly good correspondence was found between the high velocity seismic and the high value gravity anomalies.