

# Geoscience for Vienna Basin and West Pannonian Sediments – a Geodetic Cooperation Call for A, H and SK

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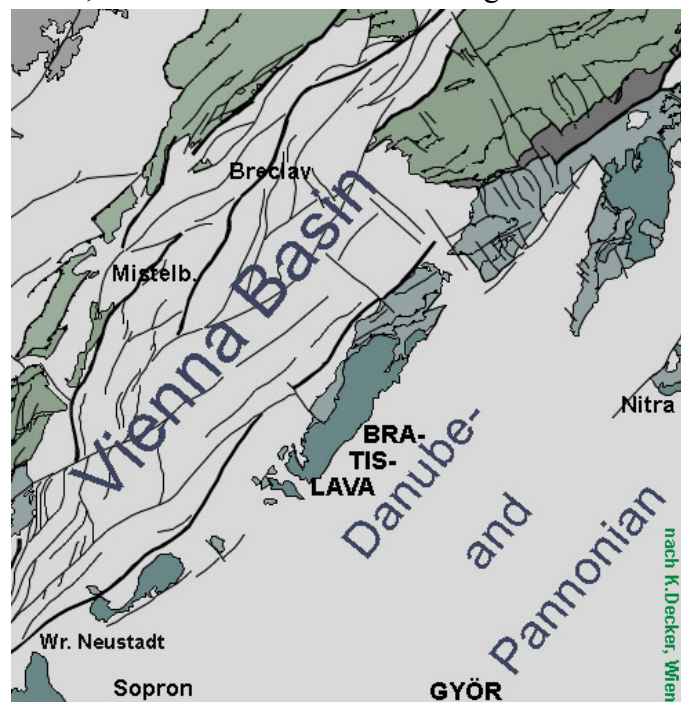
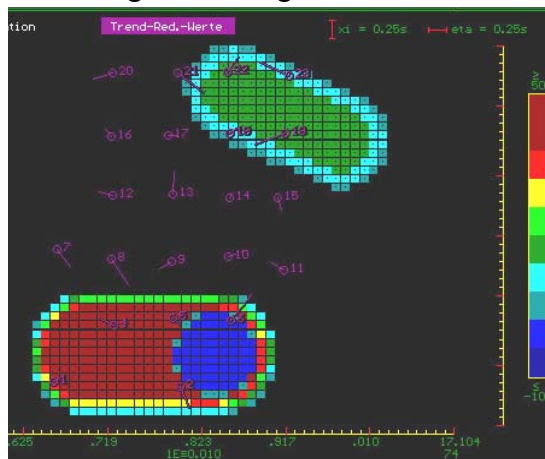
As a late PANCARDI contribution a three country cooperation of Geodesy, Geophysics and Geology is proposed, aiming to a better density model of circum-pannonian sediments up to depths of 5-8 km. New ideas and questions will occur, interdisciplinary cooperation will raise the project chances, the a-priori models and the final output.

We are already in contact to colleagues in Slovakia (**TU Bratislava** M. Mojzes; **TU Kőcsice**), Hungary (**TU Budapest** J.Ádám, G. Toth; Geophys.; **GGRI Sopron** G. Papp) and **Austria** (D.van Husen, K. Decker, B. Meurers; N. Kühtreiber, OMV-AG) but we like to find all who are inter-ested in a real co-operation on the very upper crust sediments of our 3-country-area.

The geodetic interest is to improve the geoid by 50% (already done by astro points in the central Vienna basin) and to get densities for other tectonic basins or methods. We plan to measure **Vertical Deflections**; a partner with gravimetry is welcome.

Geophysical density interest is even broader – not only for gravimetry but also for seismics and sometimes for geohydrology or petrology. As shown by the author, vertical density functions can be derived with  $\pm 0.03$ /km. Borehole or density logs can supplement the basic data.

Geologists may share their experience at start, but will raise it with increasing measurements. Perhaps special data statistics, GIS methods or sediment compaction are interesting scientific goals.



Apriori models usually have horizontal sediment layers based on geologic profiles, rock sample densities, drillings and seismics. In Pannonia good depth maps (and files) exist but the basin slopes can be corrected for new measurements, e.g. by our software Gremmo (lecture in TS9). Other goals may be local compaction rates. At Vienna they range from 0.11 to 0.16/km.

Above a local density variation of  $+0.1/-0.5$  g/cm<sup>3</sup> is shown (vertical cylinders of defined depth). The Schwechat hole (6km, SE of Vienna) was modeled like this. The used Astropoints (22 **Vertical** vectors) and final residuals ( $\pm 0.25$ ") are also shown, corresponding to  $\sim 1$  mgal.

In contrast to many Pancardi projects the deeper crust is not analysed but the results can be used to reduce some trend effects.

(PanGeo, Geoscientific Meeting Salzburg, Austria, 28-30 June 2002; Abstract of 3<sup>rd</sup> Lecture)