and western Europe (with a stable ancient platform dominating the east and younger mobile belts in the west), together with greatly improved communication throughout Europe, have set the scene for many exciting new ventures in the Solid Earth Sciences.

During 1992-93, the Europrobe programme has focused on four main themes "Deep Europe" (DE), "IntraplateTectonics and Basin Dynamics"(ITBD), the "Trans-European Suture Zone" (TESZ) and the "Uralides & Variscides" (U&V). Europrobe has held workshops in the Czech Republic, Denmark, Germany, Hungary, the Netherlands, Poland, Russia and Spain. Although the first two years of the programme have mainly concerned defining targets for multinational investigation of the main themes, Europrobe workshops have stimulated pilot projects (eg.in the Urals) and a wide range of other collaborative research.
Europrobe's first two years have resulted in the definition of several key projects that will provide foci for research in the mid 1990s. These include a multidisciplinary transect from Europe to Asia across the Urals, a basin dynamics focus on the Donetz-Dnieper-Pripyat and related aulacogenes of the East European Craton, new investigations of the Carpathian Arc-Pannonian Basin System, a combined study of Siberian (Yakutia) mantle xenoliths (kimberlitic) and deep seismic data to interpret mantle velocity discontinuities and the evolution of Archaen crust, a focus on the Trans-European Suture Zone (particularly the Palaeozoic accretionary history) and various other investigations of the contrasting signatures of the deeper lithosphere in eastern and western Europe. These and other projects will be running workshops in the years to come; people with related research interests are welcome to participate.

MAGNETISM OF THE PALEOZOIC ROCKS FROM THE SPIŠSKO-GEMERSKÉ RUDOHORIE MTS. (SLOVAKIA)

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The Spišsko-Gemerské Rudohorie Mts. lie in the central part of Eastern Slovakia. This mountain system has a particular position in the geology of the West Carpathians. It is the only area in the West Carpathians with a complete Paleozoic sequence and is the most important ore district of the West Carpathians. Modern detailed investigation of this area is necessary for the comparison of lithostratigraphic, tectonic and metamorphic setting with other crystalline Mts. in the West Carpathians. The rocks of the investigated area have undergone a different degree of metamorphism up to the present. The age of studied rock types is Silurian - Permian (435 - 265 mil. years).

Groups Rock types	$\kappa \cdot 10^{-6}$ SI u.	RMP [nT]	Magnetic minerals in rocks	t_m °C	t_s °C
Paleozoic granites	53.5	4.1	Paramagnetic biotites (they convert into a magnetite during cooling from 700 °C)	600	400
Metapsammites Conglomerates	226.5	5.0	Magnetite-hematite solid solution	550	250
Porphyroides	247.0	35.6	Mostly paramagnetic biotites, rarely also magnetites	550	300
Phyllites and basic schists	496.3	2.6	Paramagnetic mineral (probably biotite), which converts into a mineral with $T_C \sim 530°$ over 280°C; rarely biotite or pyrrhotite	500	200
Rhyolites	622.5	0.3	Magnetite with small amount of hematite	200	
Mylonites	283.3	1.3	Mostly paramagnetic biotites, paramagnetic mineral (probably biotite), which converts into a mineral with $T_C \sim 530$ °C ($T_C \sim 590$ °C) over 280 °C	250	
Lydites	0.8	0.7	Paramagnetic unknown mineral, which converts into a mineral with $T_C \sim 580$ °C (probably magnetite)	250	

Tab. 1.: Experimental results; Legend: t_m - temperature to which was rock mineralogically stabilized; t_s - temperature of the secondary cooling of rock without a mineralogical changes.

The aim of our experimental works is to contribute to the recognition of the thermal relations as well as thermal history of geological development of the mentioned Paleozoic formations and to recognize the influence of the metamorphic processes on the magnetic properties and magnetic mineralogy of rocks. On selected rock types the following complex of laboratory procedures were employed:

- a thermodemagnetization of natural remanent magnetic polarization (NRM);
- a thermodemagnetization of induced isothermal remanent magnetic polarization (IRM);
- an analysis of thermal dependence of magnetic susceptibility of compact rock samples;
- a study of magnetic susceptibility changes of separated magnetic minerals of rocks induced by temperature.

The investigated rocks were divided into seven groups. The representative experimental data are presented in Tab. 1. The character of demagnetization curves indicate that the range of variations of the NRM, IRM and susceptibility is very large. The rocks are in various magnetic and chemical stages, corresponding to

different degrees of their alteration. The values of remanent magnetic polarization (Tab. 1) varies from 0.3 to 35.6 nT and the bulk magnetic susceptibility from 0.8 to $622.5*10^{-6}$ SI u.)

The main carriers of magnetism in rocks are magnetite, biotite and rarely hematite and pyrrhotite. Considering the results of demagnetization tests and knowledge about magnetic materials we can say that the RMP of most of the studied rocks is a secondary one.
Obtained results will be used in interpretation of data of the geophysical prospection. They also give information about the thermal history of geophysical units. Several of them, in which we can establish the stable magnetization, will find application in tectonic reconstruction of the development in the studied area.

THE THICKNESS OF THE EARTH'S CRUST AT EASTERN ALPS AND BOHEMIAN MASSIF DERIVED FROM TELESEISMIC EARTHQUAKES ANALYSIS

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The structure of the earth's crust in the Eastern Alps, especially at the 3-components station Zwettl (granitic bed-rock) was inspected from earthquake records. Crust discontinuites generates reflexions, which superpose the first arriving P-wave and the resulting signal describes a long wavetrain.

Reflexion and transmission functions (for a horizontal layered medium) with different crust models were computed and their impulse responses provided. The convolution of these impulse responses with a special input signal produce synthetic seismograms. These, when compared with the original records of earthquakes provide models of the crust. On the assumption of one mean P-velocity we calculated the thickness of the crust for all 8 stations. The influence of S-waves was also considered at the station Zwettl to calculate models analogous to the above discussed procedure. Compared to the P-model there are twice more data to consider because of the horizontal displacement, caused by the S-waves which contain additional information.

The computed depth of the Moho by the S-model is the same by the P-model. The accuracy of P- and S-wave models is ± 1 km. The thickness of the crust at the stations is: at Bleiberg 40 km, at Klagenfurt 45 km, at Sonnblick 47 km, at Mariazell 32 km, at Glashütten/Lockenhaus 36 km, at Pitten 33 km and at Zwettl 34 km. These qualitative results complete the available map of the Moho Depth from Austria and adjacent areas.