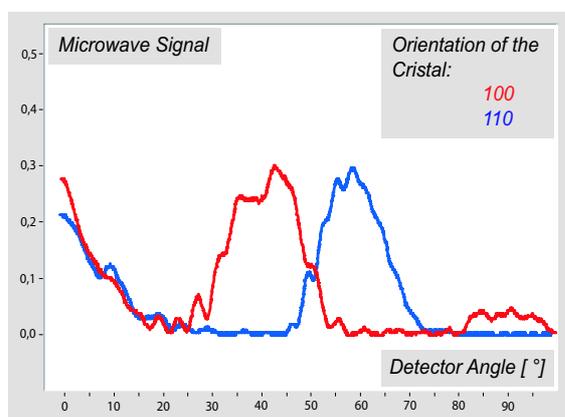


## 15 Electronics Workshop

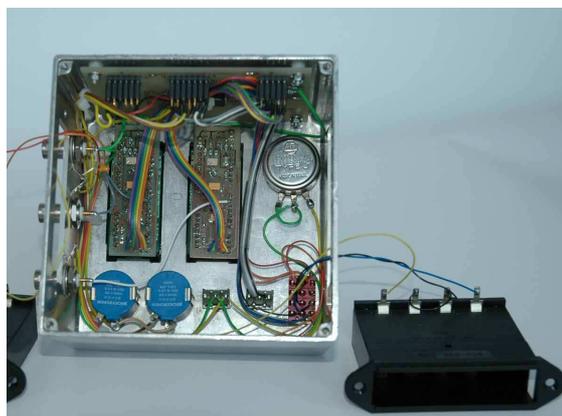
W. Fässler, H.P. Meyer, P. Soland and K. Szeker

Several dedicated power supplies were developed and built during the last year. Details of the instruments are shown in the figures to the right. Various repair work, modifications and new designs were executed for all groups at the institute which includes the corresponding documentation. In some cases faulty parts were no longer available so substitutions had to be found. The evaluation and procurement of these parts were often extremely time consuming.

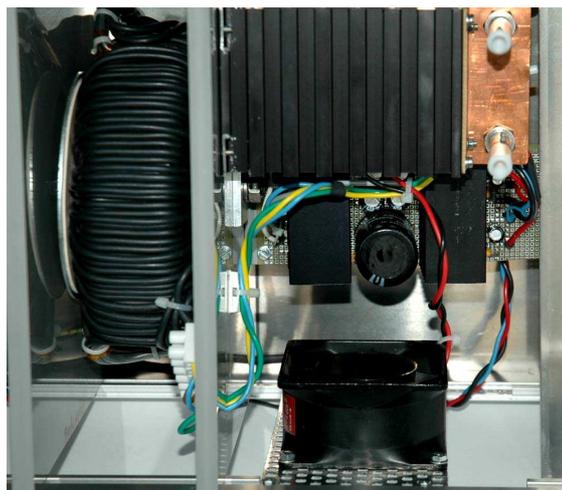
Together with L. Pauli and J. Seiler, who are responsible for the preparation of the experiments in the lecture halls, the workshop maintains and renews the equipment used for demonstration experiments. As a new example the figure below shows curves measured during the demonstration of Bragg's law for two orientations of the crystal model. These curves can be projected with the beamer during the measurement. The associated electronics were designed and built in the electronic workshop. Different seminars and courses were attended including a wire bonding training to operate the wire bonding machine, which is meanwhile installed at the workshop.



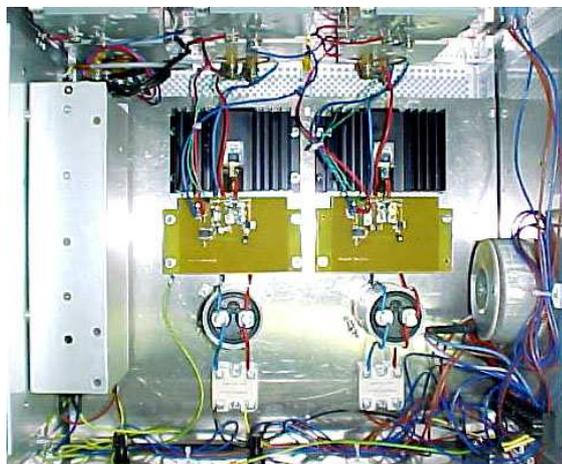
Demonstration of Bragg's law during a lecture on modern physics.



Dedicated constant current- and voltage source.



Special heating power supply transformer.



High current DC power supply.

Some examples of our activities in support of the various research projects are:

- **Physics of Biological Systems**  
(Group Fink, Sec. 12)  
Design and construction of a dedicated heating power supply transformer.
- **Superconductivity and Magnetism**  
(Group Keller, Sec. 9)  
A second version of a computer controllable motor power supply was designed. The construction of a NMR spectrometer started. Eventually two complete systems will be built.
- **Particle Physics at DESY/HERA (H1)**  
(Groups Straumann and Truöl, Sec. 2)  
The workshop was involved in the repair and maintenance of the CIP readout electronics for the H1 experiment at DESY in Hamburg.
- **High-precision CP-violation Physics at LHCb**  
(Group Straumann, Sec. 7)  
A programmable delaymodule was evaluated and various PCB layouts were designed.