

Hertenberger

**High-precision large-area micropattern detectors**

High-precision Micromegas micropattern detectors, square-meter in size, will be developed. They are high-rate capable, non-ageing and ideal for precision tracking in high-energy experiments. Potential applications in medical imaging, as radiography/tomography using ion beams, are currently under discussion and will be investigated, similar to tracking of heavy ions as used in experiments of research area G. The unique Garching Cosmic Ray Facility will be used to calibrate the planar large area micropattern detectors with very high precision. Tests under high-energy neutron and proton irradiation investigate the radiation hardness and rate-capability of these detectors and will be performed at the MLL tandem laboratory.