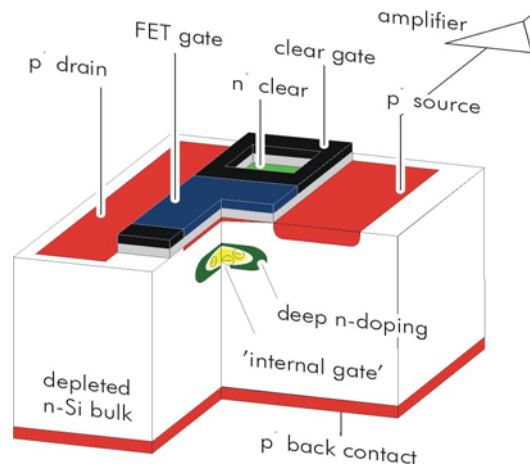


The Semiconductor Laboratory of the Max-Planck-Institutes for Physics and for Extraterrestrial Physics offers Positions for **Diploma (Master) and PhD Students**

for research on:

Characterization and Development of Active Pixel Sensors for future Vertex Detectors in High Energy Physics Experiments



Schematic view of a DEPFET Pixel

The Semiconductor Laboratory of the MPI designs, manufactures and tests silicon detectors for astrophysics and high energy physics experiments. Currently we develop active pixel sensor (APS) to be used in vertex and tracking detectors at future linear colliders. An APS is a two-dimensional detector with an amplification structure integrated in each pixel. The device is based on the DEPFET technology (Depleted P-channel Field Effect Transistor) which has been developed in our laboratory.

First prototypes have been produced in 2003. Readout electronics has been developed by our collaboration partners at the Universities of Mannheim and Bonn. The successful candidates should set up and operate a complete detector system with peripheral- and readout electronics. Furthermore they should prepare, run and evaluate measurements in testbeams at DESY or CERN. The result should be a complete characterization and modeling of the sensors allowing an optimization of the next design iteration.

The candidates should be hardware oriented and need to have good knowledge of semiconductor physics and experimental skills. They are expected to acquire knowledge about detectors and instrumentation of high energy physics experiments.

We offer the possibility to work in a unique environment with a complete infrastructure for development and manufacturing of silicon detectors and the possibility to get introduced in high energy physics experiments.

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