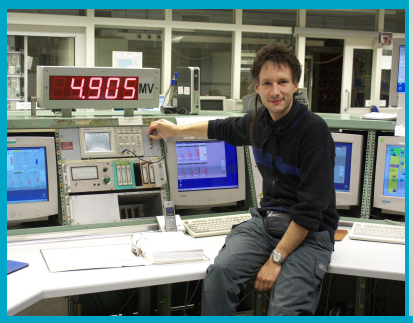
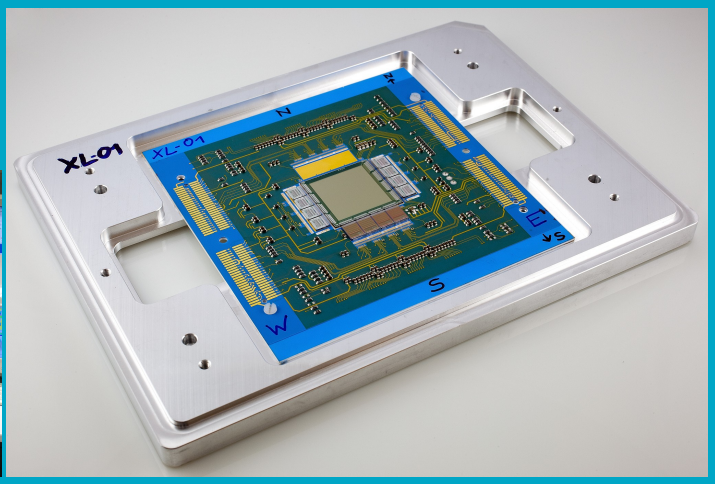
Advanced Instrumentation Seminars

January 28, 2011
1:00 PM
Kavli Auditorium

Electronics for DEPFET-based Detectors

Guest Speaker -
Sven Herrmann
Max Plank Institut
Halbleiterlabor





The concept of DEPFET (DEpleted P-channel Field Effect Transistor) detector can be used as building block for a large variety of different applications ranging from x-ray astrophysics and particle physics to photon science. The concept is based on the combination of the sideward depletion principle with a p-channel field effect transistor as first amplification stage.

One of the main drivers for the DEPFET research is the development of detectors for satellite based x-ray astrophysics missions like IXO (International X-Ray Observatory) or Gravitas requiring good energy resolution at high frame rates and low power.

During our DEPFET R&D activity we developed two types of ASICs (ASTEROID, SWITCHER) and a modular data acquisition system. Details of these systems together with examples of application will be presented and discussed.

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