

Silicon sensors developments with Infineon Austria

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Most modern particle physics experiments use silicon based sensors for their tracking systems. These sensors are able to detect particles generated in high energy collisions with high spatial resolution and therefore allow the precise reconstruction of particle tracks. The same technology now also becomes used as the active sensor in calorimeters.

Today, only a few vendors are capable of producing silicon strip sensors with the quality needed for particle physics experiments. Future detectors like the upgrades of the LHC detectors or the ILC detectors will increase the demand for planar silicon sensors to many hundreds of m² produced within just a few years. To satisfy this increasing demand, the establishment of additional high quality and high volume producers is crucial.

Together with the European-based semiconductor manufacturer Infineon Technologies AG (Infineon) the Institute of High Energy Physics of the Austrian Academy of Sciences (HEPHY) is developing planar silicon strip and pad sensors for high volume productions. This talk presents the current status of the collaboration and shows results from measurements on sensor produced in 6" and 8" technology.

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