

Symposium Precise Quantum Detectors in Space, Time and Energy – Semi- and Superconductors in Particle and Condensed Matter Physics (SYQD)

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Semiconductor detectors based on quantum effects and quantum generation have revolutionised particle detection in recent decades and are also indispensable for future experiments. Electronic detection and measurement of particles with micrometer spatial and tens of picoseconds time resolution have been made possible. In extreme high-flux and high-rate experiments, such as in pp collisions at the LHC, only semiconductor detectors can be operated as track detectors. New developments in the field of superconducting quantum sensors with the additional potential for precise energy detection of particles further establish the close connection between particle and solid-state physics. The symposium addresses particularly new developments leading into the future of particle and quantum detection with four dedicated presentations, including high precision timing, ultra-thin detectors and the potential of single quantum detection devices.

Overview of Invited Talks and Sessions

(Lecture hall ZHG104)

Invited Talks

SYQD 1.1	Thu	10:45–11:00	ZHG104	Symposium introduction: semiconductor quantum sensors/detectors in particle physics - a success story — ●NORBERT WERMES
SYQD 1.2	Thu	11:00–11:25	ZHG104	Precision Timing with Silicon Detectors — ●NICOLO CARTIGLIA
SYQD 1.3	Thu	11:25–11:50	ZHG104	Quantum sensor systems for enhanced precision particle detection — ●MICHAEL DOSER
SYQD 1.4	Thu	11:50–12:15	ZHG104	High-performance superconducting nanowire single photon detectors — ●VAL ZWILLER
SYQD 1.5	Thu	12:15–12:40	ZHG104	ALICE ITS3 – the ultimate paper wrap pixel detector — ●MAGNUS MAGER

Sessions

SYQD 1.1–1.5	Thu	10:45–12:40	ZHG104	Precise Quantum Detectors in Space, Time and Energy – Semi- and Superconductors in Particle and Condensed Matter Physics
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