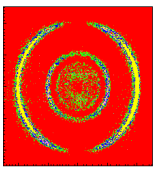
The HEX delay line detectors



RoentDek
Handels GmbH

Supersonic Gas Jets
Detection Techniques
Data Acquisition Systems
Multifragment Imaging Systems

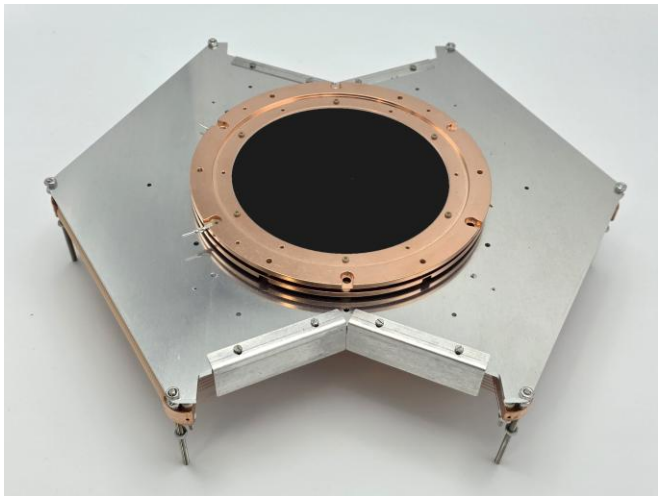
The **RoentDek HEX-detectors** are position sensitive single particle detectors for advanced applications. Their main applications are found in the following fields:

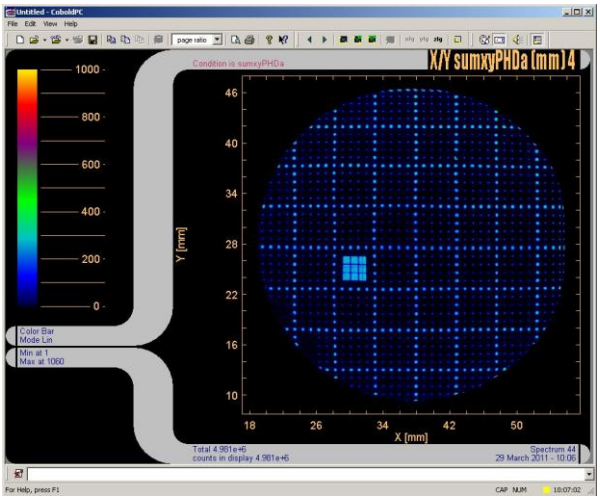
- atomic/molecular physics
- Momentum spectroscopy (e.g. COLTRIMS reaction microscopes)
- laser- and synchrotron measurements
- VMI
- coincidence measurements with other detectors

Standard delay line detectors (DLD) already combine a huge range of applications. Compared to other techniques (e.g. quadrant anodes, resistive screen anodes, CCD-cameras) the delay line technique is much less limited. No other technique offers such a wide range of parameters as high particle rate, high position resolution and low dead time. With the **RoentDek HEX-detectors** the delay line technique has reached a new level. Historically they were developed for the simultaneous and dead-time free detection of multiple electrons. Up to this date no other detector concept comes close in **mulit-hit performance** with **true zero dead time.**

RoentDek HEX detectors are available in various sizes ranging from 40 mm active area up to 120 mm active diameter – either as single devices or as part of a complete system which include a complete set of the required electronics and complete software solutions (incl. support for **LabView**).

RoentDek always focused on multi-particle detection (e.g. required for recording complete molecular fragmentations). Lowest dead times and multi-hit capability in the hardware as well as in the software are a fundamental part of our philosophy.





Typical specifications:

- Particle rates beyond 1 MHz
- Multi particle detection
- Absolute detection efficiency up to 81%
- **Zero dead time** (if the particles are separated by at least 10 mm)
- Position resolution 17 to 45 µm (RMS)
- Timing TOF-resolution 25 to 100 ps (RMS)
- **Improved image linearity**
- **Intrinsic** diagnostic online **control** of the achieved **position resolution.**
- Also available with **center hole**

for more information see www.roentdek.com/info/Delay_Line