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## Photon counting detectors for laser spectroscopy experiments at SPECTRAP

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GSI has an active program of laser spectroscopy experiments with highly charged heavy ions. The focus of the measurements is on the study of fundamental interactions in extreme electric and magnetic fields, like they are available in few electron configurations of these heavy ions. The applied experimental methods comprise on the one hand laser spectroscopy of relativistic ions in storage rings and on the other hand high-precision laser spectroscopy of ions stored at cryogenic temperatures in Penning traps.

Especially in trap measurements, where one cannot make use of the Doppler effect to shift emitted fluorescence photons to an advantageous wavelength region as is possible in a storage ring experiment, the transitions of interest span a wide wavelength range from the UV to the near infrared. It is therefore necessary to develop different detection systems adapted to the actual experimental situation and able to reliably detect lowest rates of emitted fluorescence photons at the given wavelength.

The talk will give an overview of the different detection systems developed or procured at the university of Münster for laser spectroscopy experiments at SPECTRAP.

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