

## **Performance of the WaveDREAM DAQ System for Noble Gas Scintillation Detectors**

In the previous PhD seminar, the WaveDREAM DAQ system was presented. This system is now continuously being taken into operation to read out high pressure noble gas scintillation detectors manufactured by Arktis Radiation Detectors Ltd. These detectors are primarily used for fast neutron detection.

Crucial performance requirements for the DAQ system are

- the possibility to exploit the detector's pulse shape discrimination ability to separate between neutrons and gamma radiation,
- nanosecond timing resolution to allow time-of-flight measurements and exploitation of the detector's fast response time and
- support for correct event rate calculation in the presence of system dead time.

The talk will discuss these requirements in detail and characterize the WaveDREAM performance both standalone (i.e. electronics only) and together with the noble gas scintillation detector.