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## **DAQ System to Detect GRBs at the Sierra Negra High Altitude Observatory Using Water Cherenkov Detectors**

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### **Abstract content**

#### **Summary**

Detection of GRBs by ground detectors has never been achieved. This is partly due to the short tail in their energy spectra. However, the observation of GRBs using ground detectors is possible for unusually ultra energetic GRBs which can in principle occur as fluctuations in the measured GRB intensity spectrum. Detector sensitivity is greatly enhanced by placing the detector array at high altitude. We describe a custom-made DAQ system to measure single-particle rates at Sierra Negra using water Cherenkov detectors. This system consists of a low-power embedded computer, a FPGA, a GPS subsystem and a 200 MHz ADC converter. Besides describing the hardware, we also describe the software used to control the whole DAQ process.

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