BKLM Scintillator Readout Status

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Scintillator Readout Recent Activity

- SCROD trigger stream tested using dummy firmware provided by Brandon programmed to a single sector:
  - mode 0 (no trigger primitives at all): 20180306_klm_scrod_dummyFw_41bda8fa_mode0.bit
  - mode 2 (periodic primitives): 20180306_klm_scrod_dummyFw_41bda8fa_mode2.bit
  - Dmitri logged the trigger stream with UT3 readout firmware, **dummy firmware trigger stream behaved exactly as expected**
- Also tried recording trigger stream data with nominal detector configuration, unable to identify SCROD hits in time with RPC hits (limited data size)
- SCROD dummy firmware using revolution based timing provided by Brandon also tested
  - See AGIRA posts by Yinghui summarizing initial tests: https://agira.desy.de/projects/BIIKLM/issues/BIIKLM-18
  - Didn't break readout, need to learn how to learn how to analyze
- Brian took a set of cosmic runs at different threshold DAC values to look for differences in hit distributions
  - Still analyzing…
  - First step in checking MPPC calibration

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Plan - Debugging Scintillator Readout for GCR

- Debug SCROD-DataCon DAQ data stream - **Done**
- Debug SCROD-DataCon Trigger data stream - **Done**
  - Need to follow up last week's tests
- Check latest version of high-rate scintillator readout - **Done**
- Check MPPC HV + threshold calibration - **In progress**
  - First pass: configure MPPCs using default scintillator firmware
  - Check that dark noise counts are ~50kHz at low trigger threshold, suppressed at reasonable operating threshold
- Take UT3-triggered cosmic data in local mode to look at hits - **In progress**
  - **Need to think about how to record more hits at a time**