GRINCH at TED

- GRINCH moved from ESB to TED late Spring 2018
- PMT array (510 tubes)
  - Signal to NINO completely cabled
  - HV completely cabled (and debugged in March 2019)
- NINO cards (32 cards) powered.
  - Placement of the power supply in the Hall is a critical decision due to the voltage drop in the power lines (TBD).
- Signal NINO to FE patch panel completely cabled (but arrangement not definitively).
- Half GRINCH is cabled from FE patch panel to Read out electronics (VETROC).
- ADC readout is limited to 16 channels at this time (potentially 64 channels)
- Door seal issue solved (gas leaks check February 2019, and checked again last Tuesday, June 2019, without any change)
Minor details are needed to consider GRINCH installation in the frame to be finished:

- analog patch panel
- Cable signal NINO → PP
- Placement of the gas tubing
Mini GRINCH for cosmics

Scintillator paddles (trigger)

3x2 PMTs
Bogdan pointed that the calculated gains are so high and should be reduced to preserve the PMT duty life.

A more exhaustive analysis of the ADC spectrum of the middle PMT, with cuts in the top and bottom spectra will also help to estimate the PMT gain.

• For this, it is needed more statistics with cosmics, but to avoid noise, the DAQ can run only during the night or the weekend.

In addition, a small circuit, feed with a pocket pulser, will be used to simulate PMT pulsers, in order to study how the signal propagates through the analog lines of the system. (M. Satnik)
Next steps

inner part can be removed

Scintillator paddles (trigger)

Cosmic rays

Real data