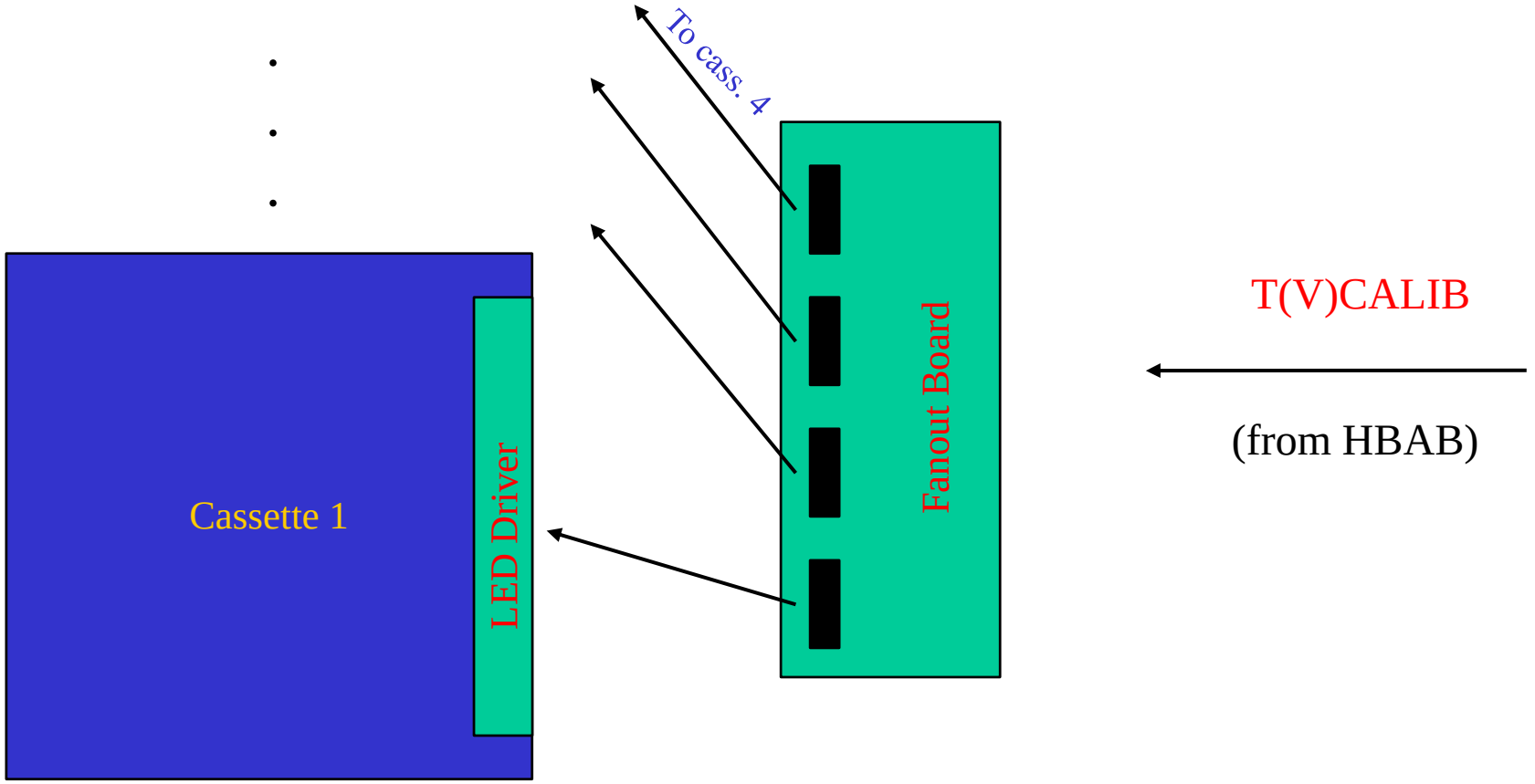
TCMT

Vishnu V. Zutshi

Status

- All 16 layers instrumented for last run
- Will request ~ 30 SiPMs for :
  - replacing broken channels,
  - instrumenting 17th cassette which can be accommodated on the stack
  - a few spares
- Main expected change is new LED driver boards
- Except for the stack everything is back at NIU so significant setup and re-commissioning time will be needed in the week preceding the startup of the run

LED System Flowchart



(not to scale)

Fanout Board

- Initially designed without a pulser
- Used TCALIB to trigger and set the duration of the LED pulse
- Required special version of firmware (thanks Paul) which allowed short (<20 nsec) TCALIB
- Oct. run was in a hybrid situation with half of the fanouts requiring the short TCALIB and half having their pulser
- For the upcoming run all fanouts will have an inbuilt pulser (special version of firmware not required)

LED Driver Board

- 1 board/cassette driving 20 LEDs
- LED brightness controlled by VCALIB
- Individual channel control by programmable DAC
- Preliminary look at the data collected indicates that the system provided adequate information (gain monitoring, response monitoring etc.) for most of the channels. However there were limitations…..

LED Driver Board contd.

- Interaction between brightness adjustment sources
- Differential drive circuit needing a positive and negative supply
- Large standing current even when the LED was off
- Voltage sagged along the length of the board

These issues have been addressed in the new design which is being tested. If no further modifications are required boards will be produced early next month.