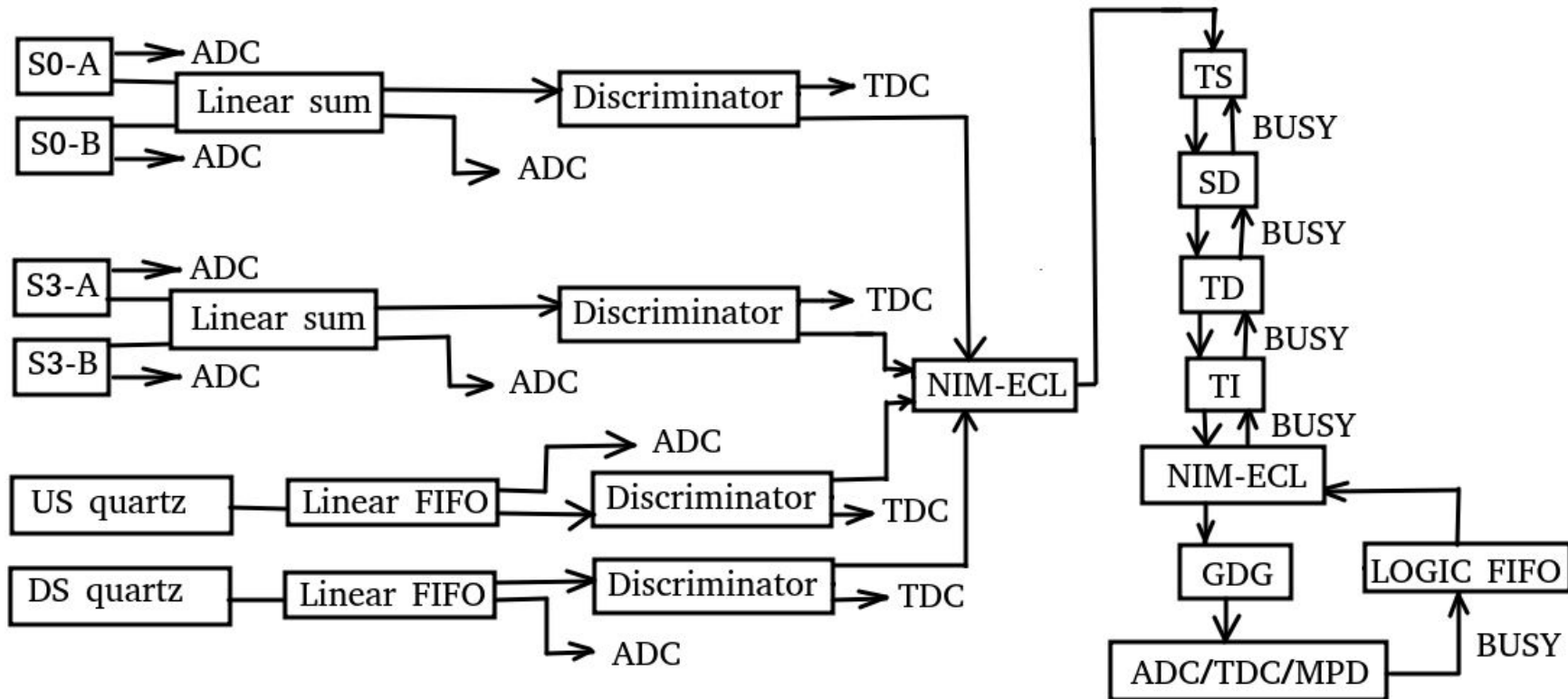


# Test Lab update

Chandan Ghosh

March 19, 2019

## Circuit diagram for counting mode DAQ



# Data rate for one arm without zero suppression

- ❖ # of APV cards for PREX GEM -  $3*(2+4) = 18$
- ❖ # of APV cards for SBS GEM -  $3*(10+12) = 66$

Total = 84 APV cards

- ❖ # of samples (=32 bit words) for each APV for each event =  $6*128 = 768$   
(excluding data header, trailer... Including those ~790 words)
- ❖ # of bits for one event for one arm =  $84*768*32 \text{ bit} = 1.97 \text{ MB}$
- ❖ Weiner VME64x Crates can handle (2eVME) 160 MB/s
- ❖ DAQ can be run up to  $(160/1.97) \sim 80 \text{ Hz}$  without zero suppression using VME backplane

**We definitely need zero suppression or have to use ssp**

# GEM detector problem

- ❖ GEM 4 problem persists (half of the detector in the 4-slot side is not working) - There is problem with one segment of third foil.
- ❖ We need to replace the foil.

Stony Brook is going to get another 10x20cm<sup>2</sup> GEM detector

