

DAQ Dead-time Update

Ryan Zielinski

11/22/2011

General Information

- High random rate trigger – Cerenkov Sum
 - Sending Cerenkov Sum into a NIM discriminator and then manually adjusting threshold to get desired rate
 - Currently this trigger is “T6”
- Dead-time is $1 - (\text{L1A rate})/(\text{Trigger rate})$
 - Rates read-out currently via scalers
 - L1A scaler is on Cer tab, channel 17
 - T6 scaler is on Cer tab, channel 18

More General Information

- Currently working on SFI sequencer CRL code
 - Kind of works right now: “LHRSSSEQ” config
 - ROCs take events (unbuffered) with SFI sequencer code but with significant dead time at 4kHz (~60%)
 - In buffered mode, ROCs take about 11 events and then have infinite dead time
- How often to read out scalers?
 - Will affect dead time

Buffered Mode Configuration

- CODA configuration called “LHRSBUFFTEST”
- With scalers turned off TS and no Happex
 - ~ 20% dead-time at 4kHz
 - ~ 30% dead-time at 6kHz
- Preliminary measurements, will do more detailed study after Thanksgiving

HAPPY THANKSGIVING

