



GLAST LAT Project

Discarded Events Forever!  
3 Oct 2005

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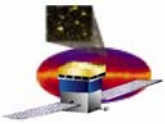
## More Stuff about Discarded Events

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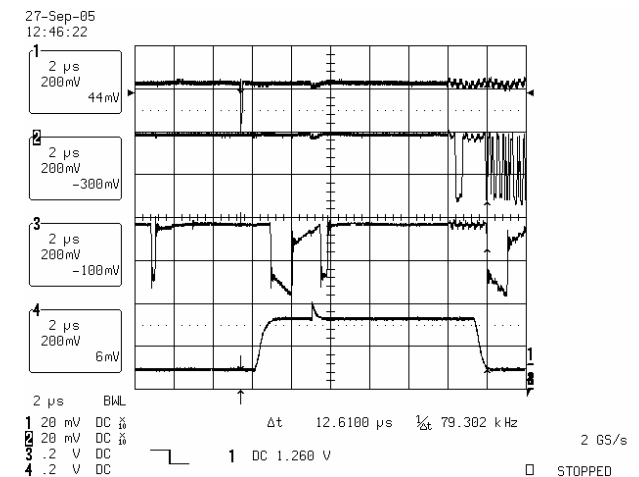
Naval Research Lab  
Washington DC

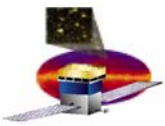




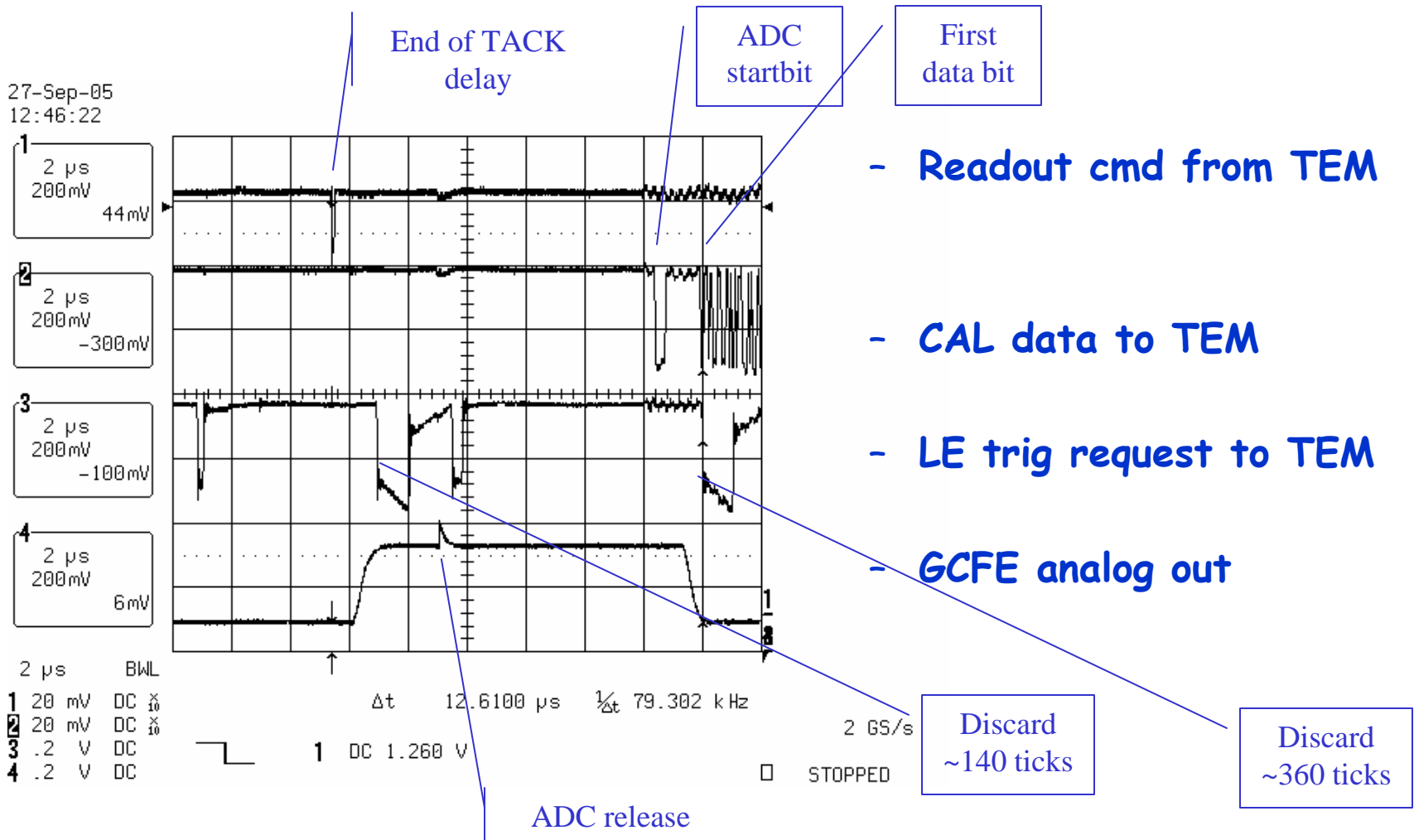
# Tests on spare boards at NRL

- Bench tests with AFEE teststand at NRL
  - No GASU = no timestamps
  - Found
    - Discards assoc with
      - Range switching of GCFE analog out
        - » ~140, 360, ... ticks
      - Release of virtual gnd by ADC after settling time
        - » ~190 ticks (not yet seen in Grid)
      - Clocking out of range bits (?)
        - » ~290 ticks (only HE in NRL tests)
    - FLE later than FHE
  - Caveats
    - Tests done through AFEE monitor BO box
    - Tests not done with flight timing
    - Tests done with thresholds at noise floor





# Tests on spare boards at NRL





# Comments

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## □ Recall deadtime

- 1-range deadtime is 530 ticks, dominated by GEM
  - CAL deadtime is ~470 ticks, of which final ~35 ticks is in rearranging/zero-suppressing of CAL data into TEM FIFO
    - CAL/AFEE activity is done ~1.7 us before TEM BUSY ends
  - CAL dominates deadtime of 4-range, zero-suppressed
    - Again, all AFEE activity is done ~1.7 us before TEM BUSY ends

## □ Enough is enough. What do we do next?

- The code exists to monitor within dead time.
- Let's start looking during live time. Look for non-Poisson. We already know that the rate is small, just from inspection of CAL-LO and CAL-HI rates.
  - Remember, we see 100% retrigger during deadtime
  - Remember, even without analysis we see <few% during livetime.
    - This CANNOT be a big issue!

