



MUON Cathode
FE Electronics

The Ohio State
University 

ADC Test

Code: /home/fast/fastdaq/daqmb-new2.8/utils/rad_test8.c

Running:

1. select ADC run test
2. write down time for run start
3. in separate X-window start paw (/cern/pro/bin/pawX11).
then exec `adcloop.kumac`.
4. monitor current for latchup

Test1 : analog/digital : (1:1)

Data is continually taken using the external pulser. Six voltage levels are used for each of the 16 channels in Buckeye 3. The 16 time samples are written to disk.

Monitor:

Terminal: The numbers of 1's and 0's for each bit is monitored. If it changes radically an error message is printed.

Paw: Two plots are displayed. The first is the $\#1's / (\#1's + \#0's)$ for each of the twelve bits in the daq. Standard numbers from the pulser data are overlay in blue. The second plot display's the largest voltage pulse peak for each of the channels as a function of time.

Output:

/home/fast/data/tmp_files/adcMMDD_HH:MM.dat
This is the pulser data from the adc.

/home/fast/data/tmp_files/adcstkMMDD_HH:MM.dat
Anytime the ratio of 1's and 0's for any bit is too far out of range a message is written to this file.

Format:

/home/fast/data/tmp_files/adcMMDD_HH:MM.dat

time event channel pulse# voltage {16 adc values}

example:

```
0.00 01 00 00 0.000 606 614 598 599 607 606 606 607 605 608 603 605 602 605 606 607
0.00 01 00 01 0.941 605 831 1247 987 693 573 554 554 556 566 568 573 579 584 586 587
0.00 01 00 02 1.882 604 1063 1906 1365 772 544 503 506 515 528 538 548 554 564 570 577
0.00 01 00 03 2.824 603 1269 2563 1757 850 513 448 454 468 492 508 519 531 540 552 560
0.00 01 00 04 3.765 602 1485 3214 2147 932 483 400 405 429 452 476 493 509 525 538 546
0.00 01 00 05 4.706 604 1690 3846 2532 1012 453 352 360 390 421 448 493 510 524 537 539
```

/home/fast/data/tmp_files/adcstkMMDD_HH:MM.dat

*event hr min sec errcnt
diff for 12 bits
#1's for 12 bits
#1's+#0's for 12 bits*

example:

```
1 0 0 0.00 1
0000 -003 -039 0063 0047 0061 0033 0011 -007 -015 0006 0016
1461 1374 0557 1069 1087 0661 0998 0679 0874 0807 0808 0844
1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537
2 0 0 4.04 2
0000 -003 -056 0081 0065 0007 0071 -022 0014 -010 -023 0010
1461 1374 0540 1087 1105 0607 1036 0646 0895 0812 0779 0838
1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537
3 0 0 8.13 3
0000 -003 -055 0079 0068 0045 0026 0001 -023 -032 0005 -016
1461 1374 0541 1085 1108 0645 0991 0669 0858 0790 0807 0812
1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537 1537
```