

June 1, '13 PSI 1 PM

channels 1 2 3 4
64mm² APD $\frac{1}{2} \times 2$ Vesel Script

June 2
6:20 AM

HV = 1812, 3 GHz amp on small APD

chans 1 $\rightarrow$ 64mm², 2 $\rightarrow$ 64mm², 3 $\rightarrow$ 2x2
4 $\rightarrow$ VESSEL trigger

$\rightarrow$ 5,000 event run of VESSEL data

$\Rightarrow$ stopped run after 700 events

134 mbyte file

4chan, 50 psec/pte for 200 usec

7 AM

Magnet setting 250 MeV +ve
still behind diamond

5,000 events $\rightarrow$ 958 mbyte file

7:10 AM take 4 runs of 2.5 k
events (2 mV threshold C3)

now reduce vert scale on C1, C2 to (2 mV threshold)
and C3 thresh $\approx$ -1.5 mV

7:26 take 2 more runs

7:34 moved C4 script $\rightarrow$ RF clock

take 5(6) more runs of 2.5 k events
each

7:50 AM Go in to move to Count of Diamonds.

8:26 AM

Detector moved to front of Diamonds
roughly same config but HV = 1776
count rate on C3 much higher
with/without beam. Large pulses,
activation in the area?

take 2 runs of 2.5k events

8:36 AM

raised HV $\rightarrow$ 1814 V

take ² (7) runs of 2.5k events

stop 9 AM

$\rightarrow$ Go in and switch C1 & C2 to
3 GHz, 13 db amplifiers

9:12 AM

take runs of 2.5k events

but C1 & C2 definitely worse SNR

$\rightarrow$ try cascading. (1st 500MHz 20db then
3 GHz $\Rightarrow$ looks good!!)

9:36

Done (Nb chan 1 (BNC) is 'DaisyChain')

take ² (6) runs of 2.5k events

10:14 take 7 more runs

10:45 removed lucite block from
in front of telescope 9 am

take 5 runs of 2.5k events each

11:30 VCSEL data @ 1814 V

ch4 = " trigger

⇒ 1300 events

11:50 IRF test using 1 V out from
VCSEL pulser split to Amp inputs
2.5k events