Hybrid 7p6 Traveler

June 23, 2000

1 Connectivity

Repairs on shorts:
Large resistance short in HV+ in hybrid fixed by:

- removing all 0 Ohm HV resistors
- scratching HV+ trace under dielectric near cable field, isolating short
- adding wire from cable solder field to HV+ pad near jumper

Fixes for opens:

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 7P6 has die: 011-045 139-042 139-043 056-011 124-036 124-041 124-051

3 Data Analysis Summary

The following summarizes the findings of the Burn-in data analysis program. The first chip in the readout name is numbered 0.

```
% Hybrid 7p6 classification info. Created 08:49:21 06/23/00

Hybrid 7p6 quality: fair
Chip classification: good fair fair good fair fair fair
Bad channels (chip-channel): 5-9 6-60
Bad cells: none
Random bad capacitors (chip-cell-channel): 1-11-79 2-14-115 2-30-114
   2-30-115 2-31-115 4-30-112 4-33-74 4-35-69 4-35-70 4-35-71 4-38-88
   6-23-89
Channels at pedestal needed for DCMS: 36.6 38.5 37.6 34.7 34.7 34.7 32.8
```

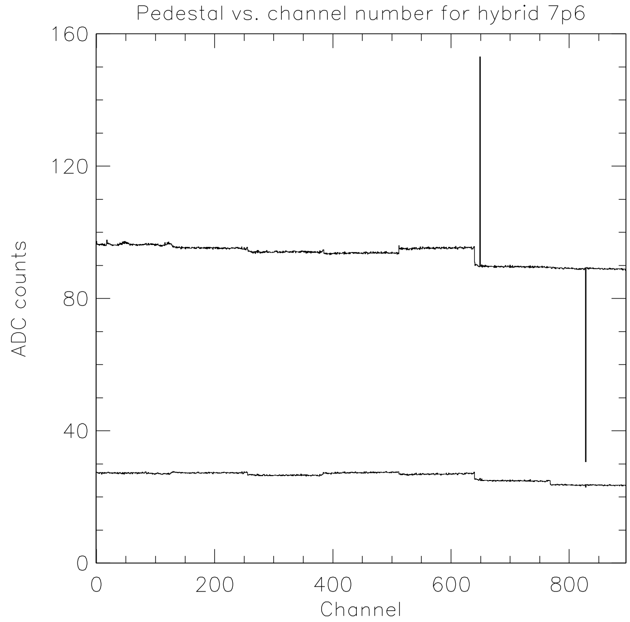
4 Comments

Encapsulated. FE DV finger gold bonds. HV tested.
Chips 4 and 7 replaced.

5 Pedestal

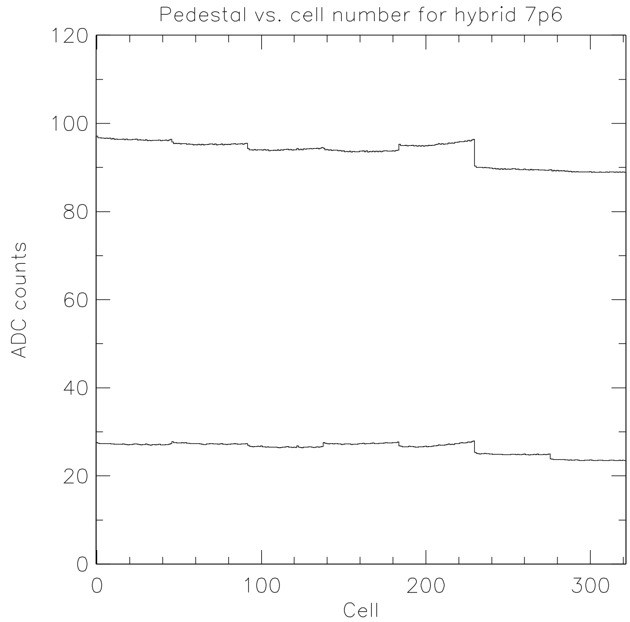
The following plot shows the pedestals vs. channel number with and without charge injection:

Pedestal for each Channel



The following plot shows the average pedestal vs. pipeline cell ID with and without charge injection. The x-axis is cell ID offset by 46 for each chip. Thus cell ID 5 for chip 1 is at x=5, chip 2 at x=51, chip 3 at x=97, etc.

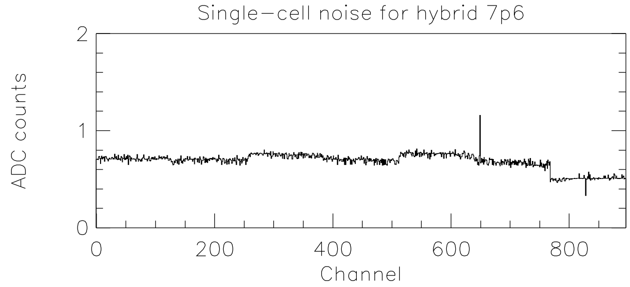
Pedestal vs. Pipeline Cell ID

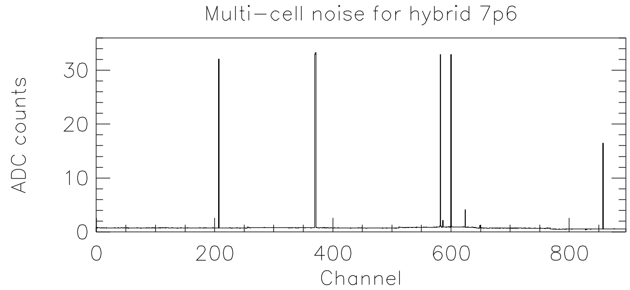


6 Noise

The following plots show the single-cell and multi-cell RMS noise:

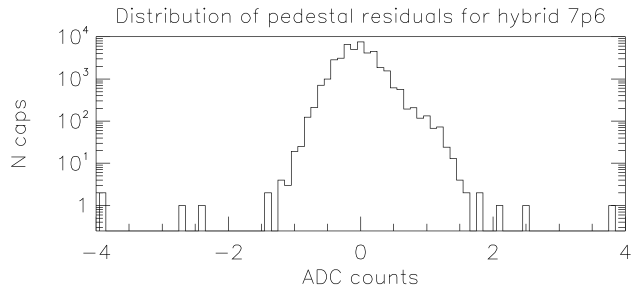
RMS Noise

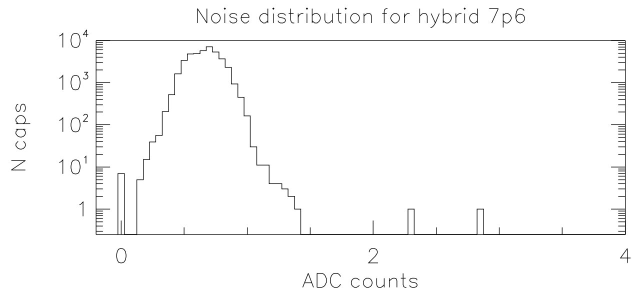




The following are histograms of the pedestal of each pipeline capacitor relative to the chip average (top); and the RMS noise of each capacitor (bottom):

Distribution of Pedestals and Noise





7 Currents

The following plots show the supply currents per chip as a function of measurment number. Currents are measured approximately every 10 minutes:

Supply Currents During Burn-in