Hybrid 4z24 Traveler

October 21, 1999

1 Connectivity

Repairs on shorts:

Fixes for opens:
TN wirebond from jumper field to chip 1

2 Chips

The following chips were assembled on this hybrid (in the order that the chips get read out):
Hybrid 4Z24 has die: 134-018 134-022 134-024 134-028

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 4z24 classification info. Created 14:56:45 10/07/99
%
% Note -- minor problems downgrade rating to "data source"
% quality -- see comments on next page.       10/21/99 AFS
%

Hybrid 4z24 quality: "data source" (see next page)
Chip classification: good good good good
Bad channels: none
Bad cells: none
Random bad capacitors: none
Channels at pedestal needed for DCMS: 30.6 36.6 33.6 35.6
```

4 Comments

* * * "Data source" quality * * *

Group of 10 channels on chip 2 don't respond to dynamic pedestal subtraction.

Long wirebond repair.

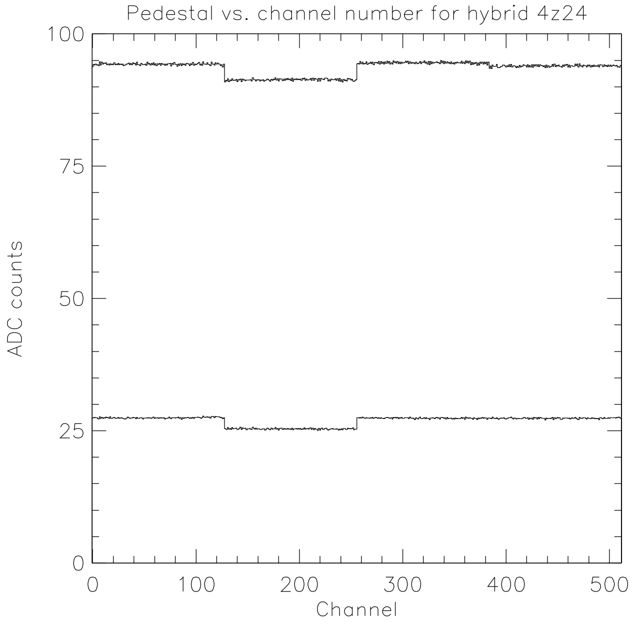
Has 4.7 μF DVDD capacitors.

Might be usable in real detector, classify as "data source" for now.

5 Pedestal

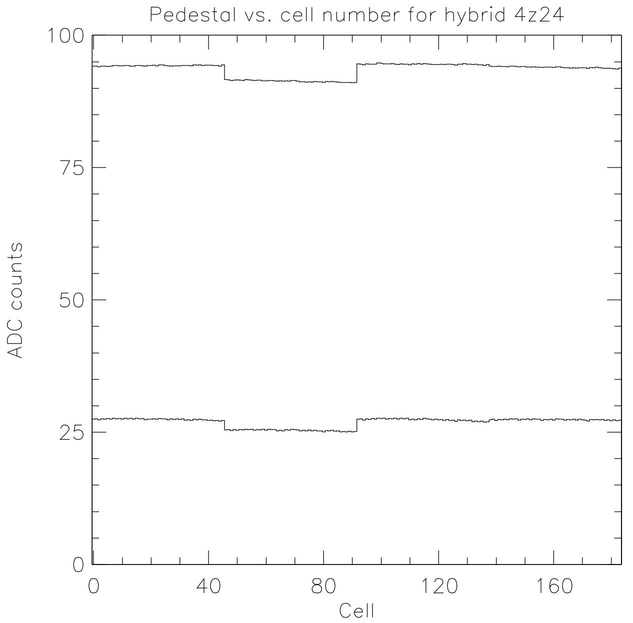
The following plot shows the pedestals vs. channel number with and without charge injection:

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.

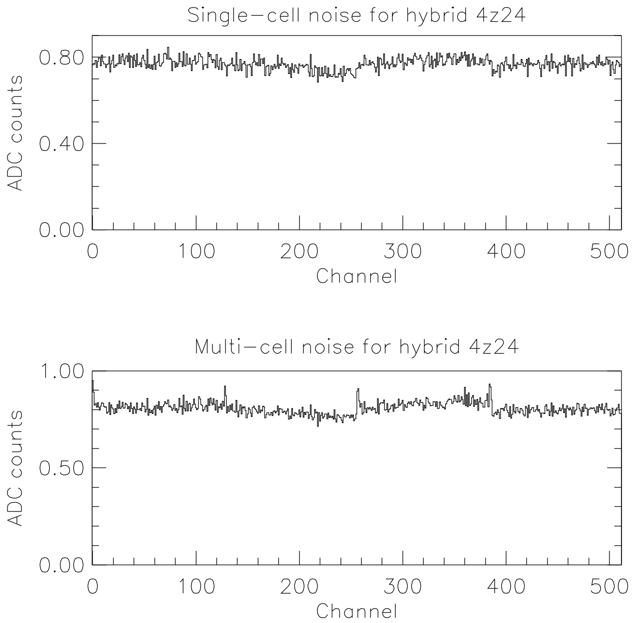
Pedestal vs. Pipeline Cell ID



6 Noise

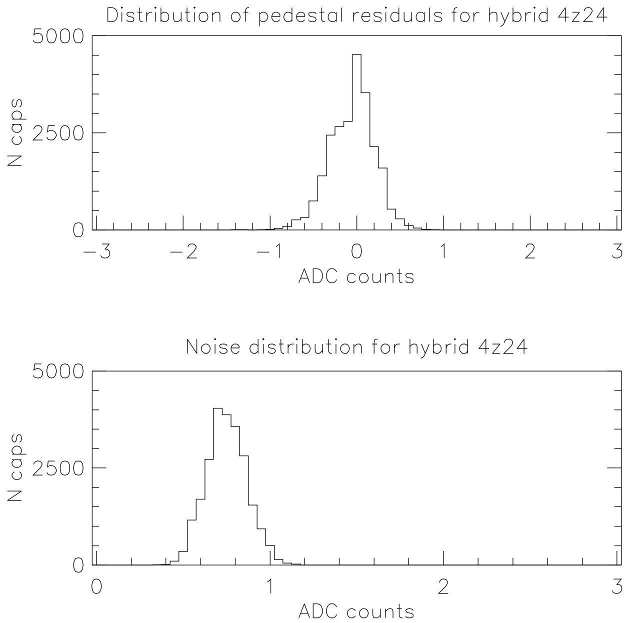
The following plots show the single-cell and multi-cell RMS noise:

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