

AMS-02 Scintillator Electronics Status

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Outline

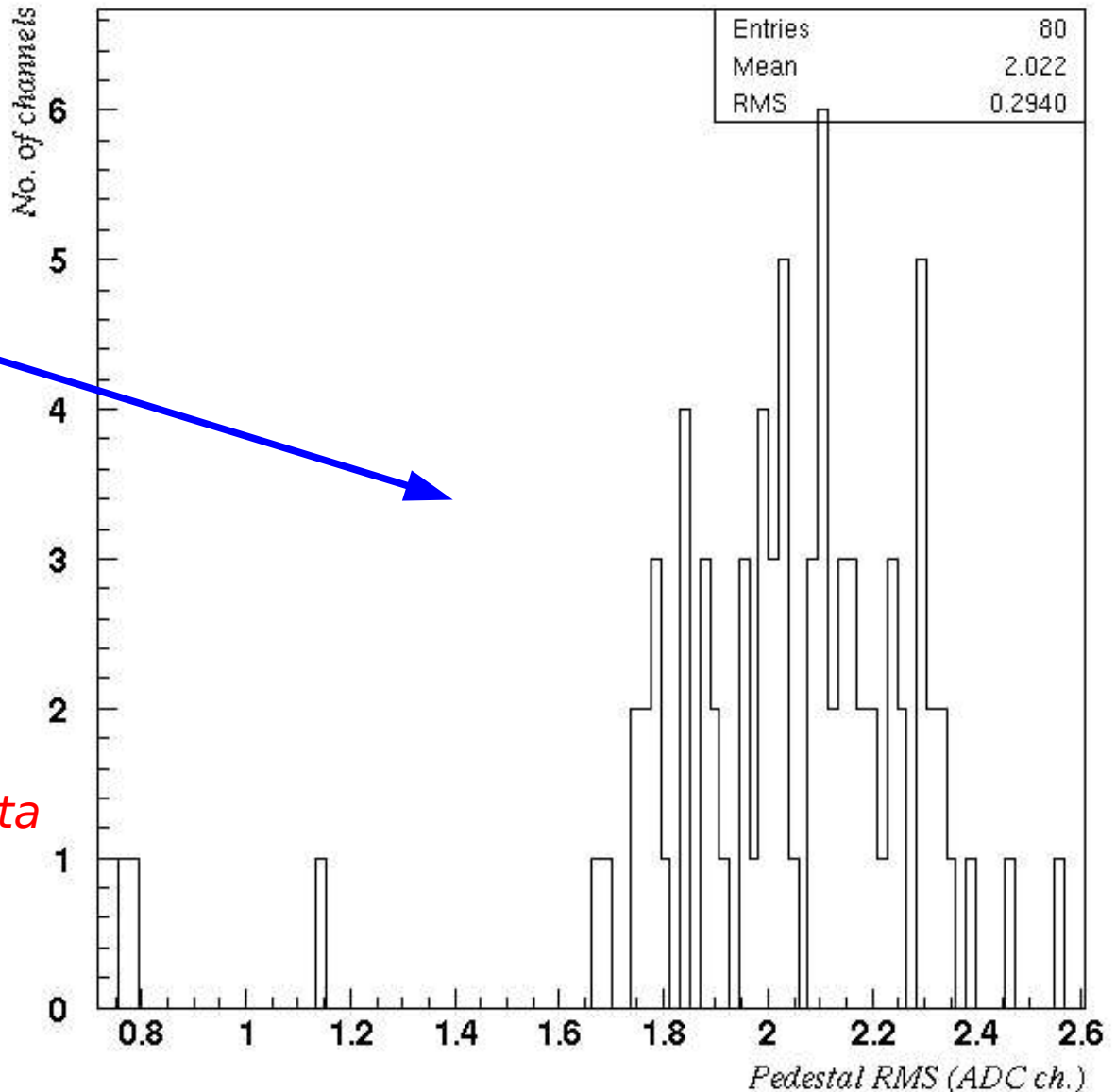
- Status of electronics production
- Charge measurement

Electronics production

- Power supplies for ACC and TOF:
 - **SHV**: QM + FS delivery in september
 - **DC/DC converters**: waiting for TSPD test
 - S9074 (3.4 V, 5.6 V): QM tested and OK
 - S9052 (± 5.6 V): QM tested and OK
- S-crate electronics:
 - **SDR2**: Gerber file sent to CSIST
 - **SFEC**: FM + FM in production
 - **SFET2** & **SFEA2**: to be finalized
 - **SPT2**: flight design under check (found bugs in QM)
 - **Backplane**: waiting for SPT2 flight design

Charge measurement

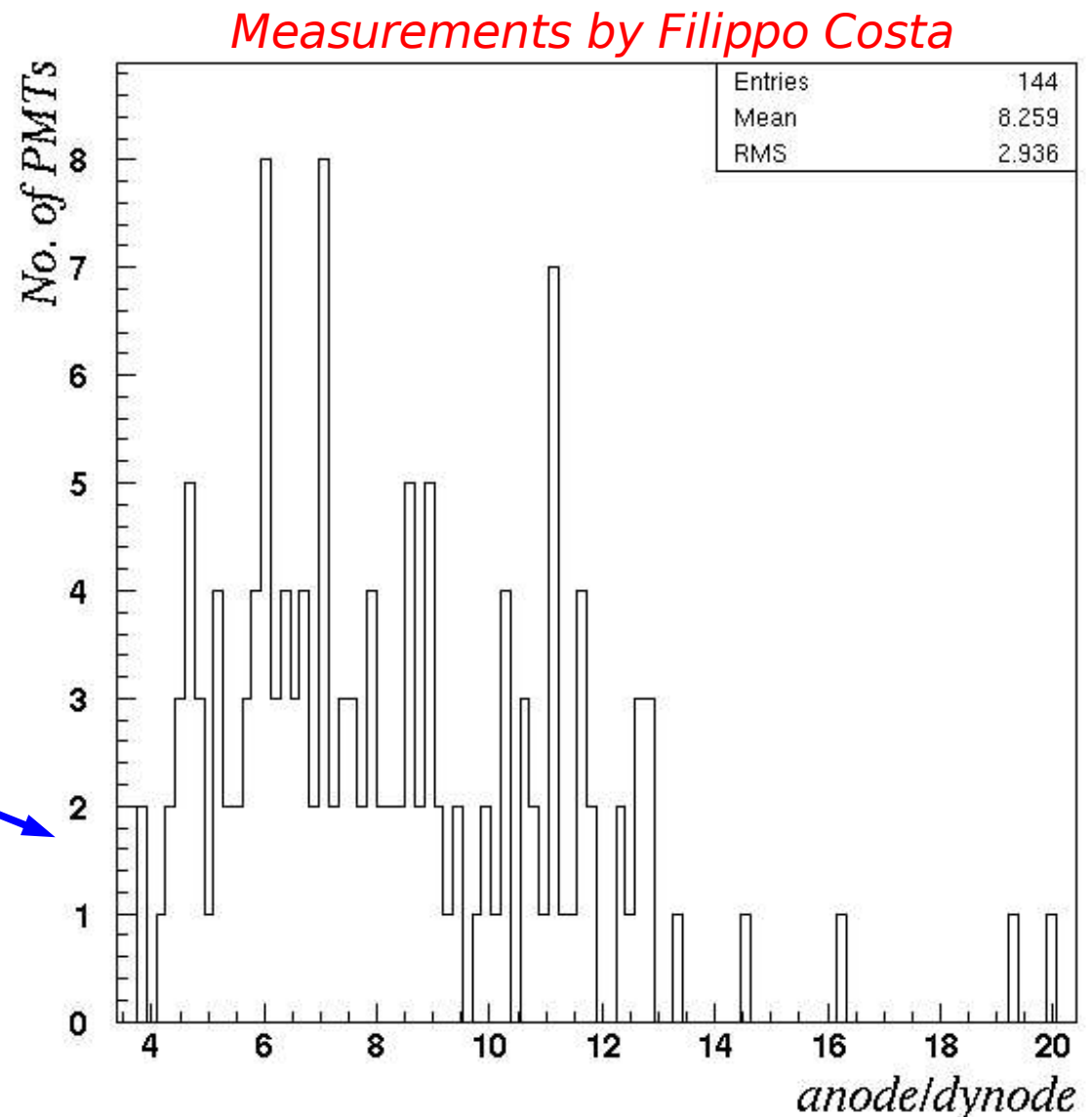
- Redundant charge measurement via anode and dynode
- Pedestal width (RMS) = 2 ADC ch. in gain G1



Measurements by Filippo Costa

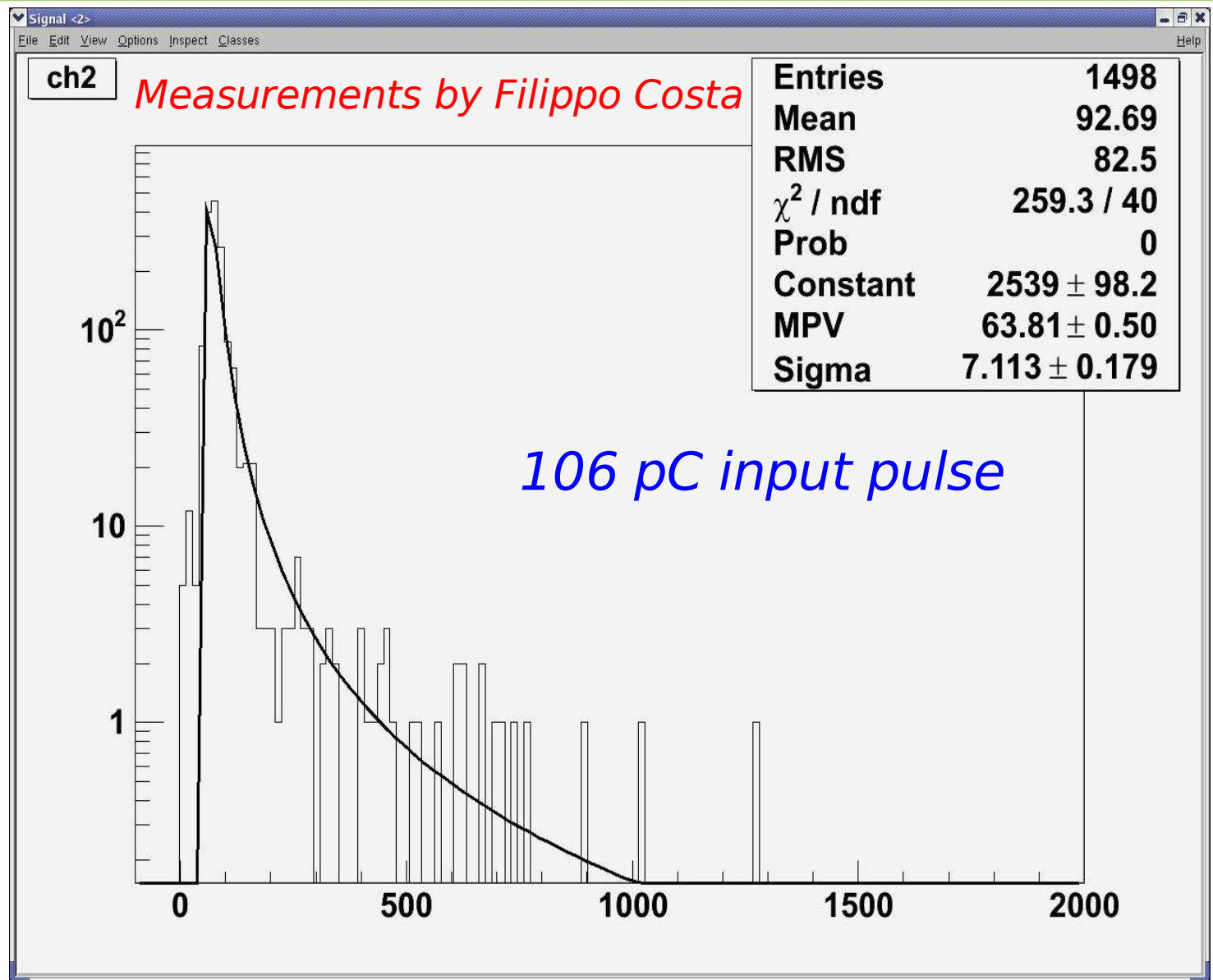
Dynamic range

- Dynamic range is large even with only 1 gain scale of the analog chip:
 - full scale at about 3700 ADC ch.
- Anode and dynode channels are available:
 - anode/dynode:
 - average = 8.3
 - std.dev. = 2.9



Anode charge

- Input divider inside SFET2 (and SFEA2) chosen to produce a charge peak at 30 ADC ch. for 1 central MIP:
 - signal/noise = 15;
 - full scale > 100 MIP.



Dynode charge

- SFEC inputs for anode/dynode = 10:
 - 3 ch/MIP (G1)
 - full scale at ~ 1000 MIP.
- In general, each counter will have channels with different anode/dynode ratio,
- hence with full-scales ranging from ~ 300 to ~ 1000 MIP.