

PMT Calibration

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- Outline

PMT inventory @ B0

Test layout

Working conditions

Gain(Charge) vs. HV

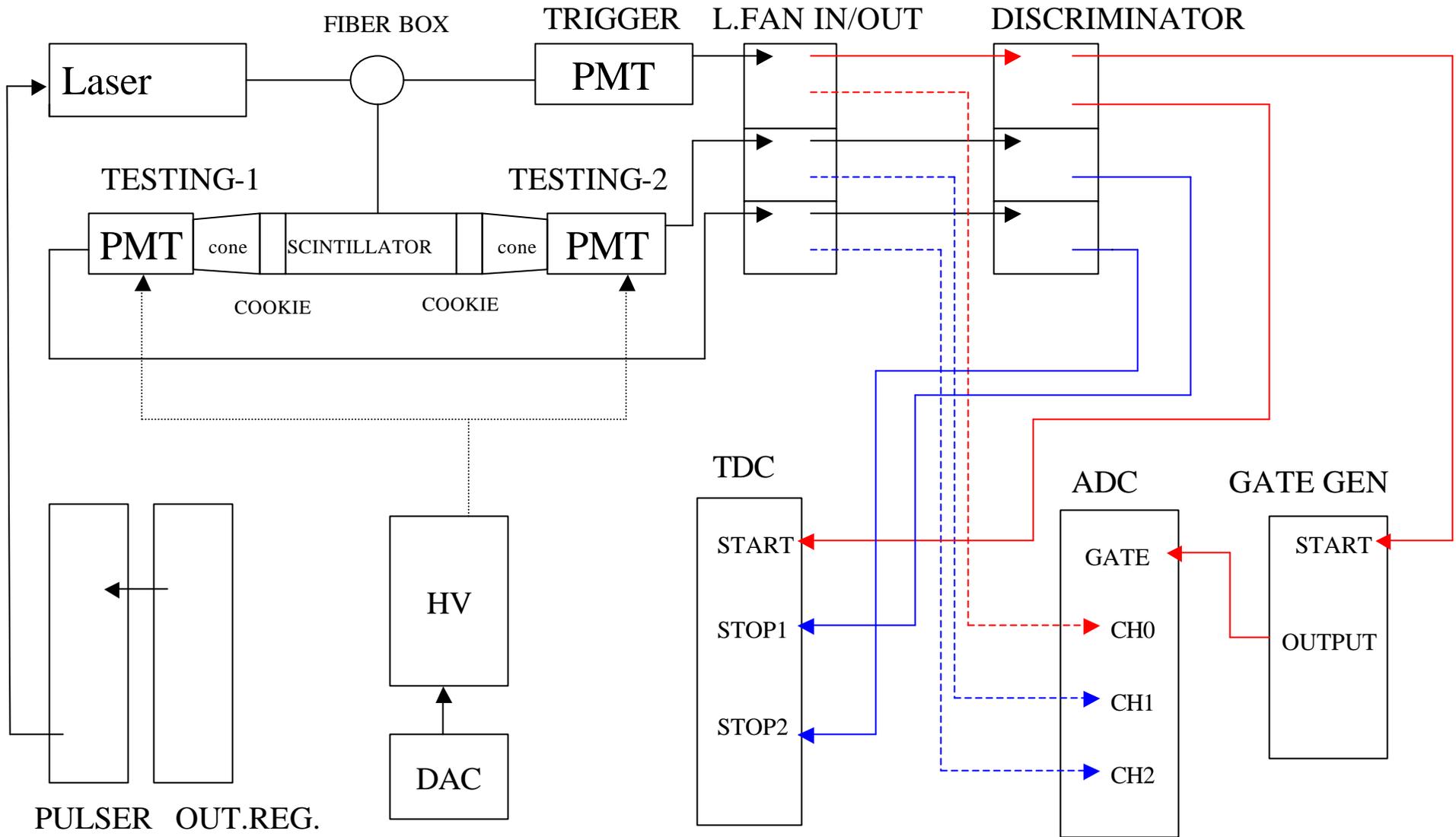
Timing Resolution vs. HV

Conclusions

PMT Inventory @ B0 and database information

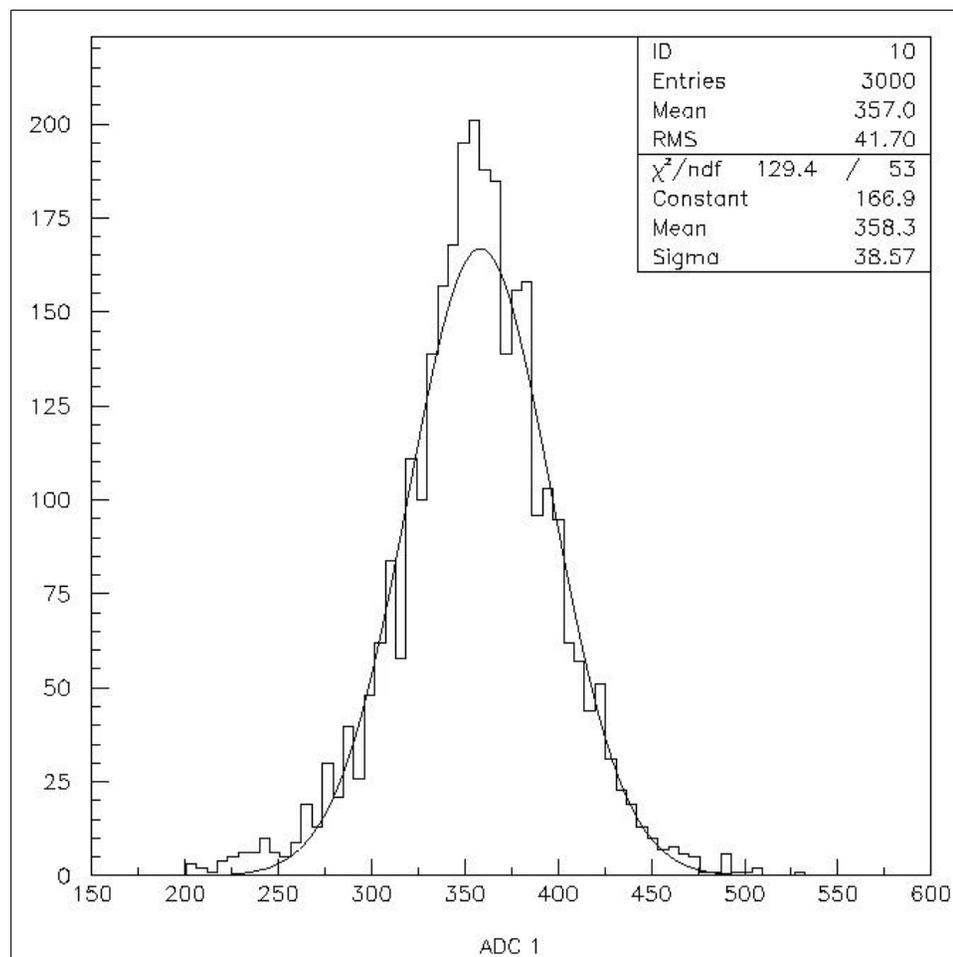
SERIAL NUMBER	Hamamatsu	Penn B=0	Sukuba B=1.4
DA0001	✓	✓	✓
DA0002	✓	✓	✓
DA0003	✓	✓	✓
DA0004	✓	✓	✓
DA0008	✓	✓	✓
DA00011	✓	✓	✓
DA00012	✓	☹	☹
DA00019	✓	✓	✓
DA00023	✓	✓	✓
DA00024	✓	✓	✓
ZH5138	☹	☹	☹
ZH5139	✓	☹	☹

PMT Calibration @ B0: current setup



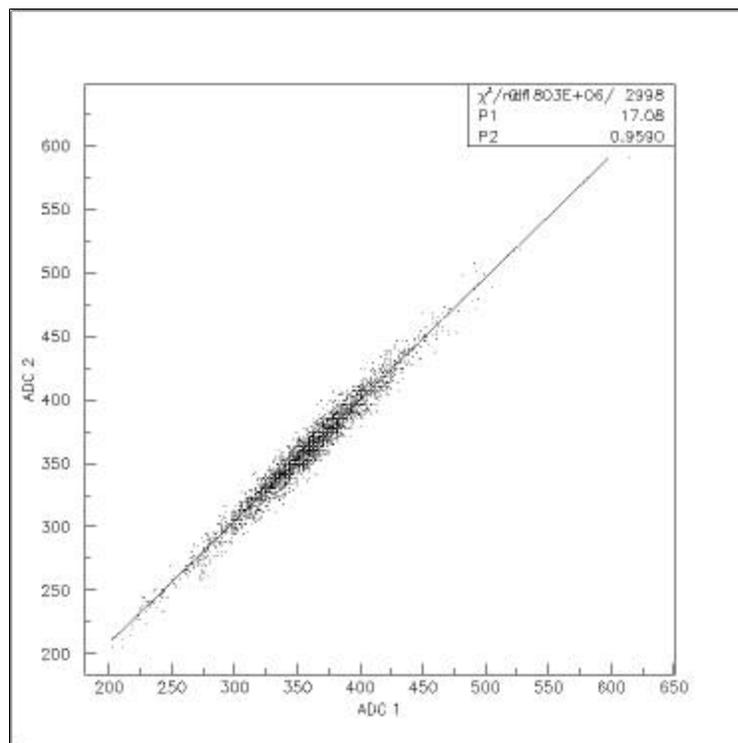
Working Conditions: Laser Stability

- Good laser stability ~ 12%.



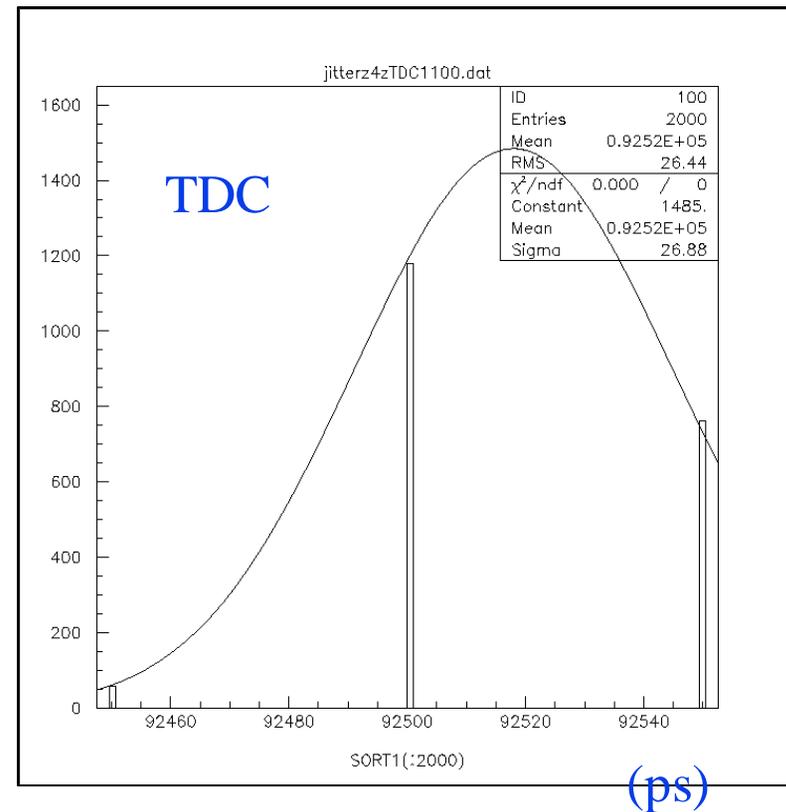
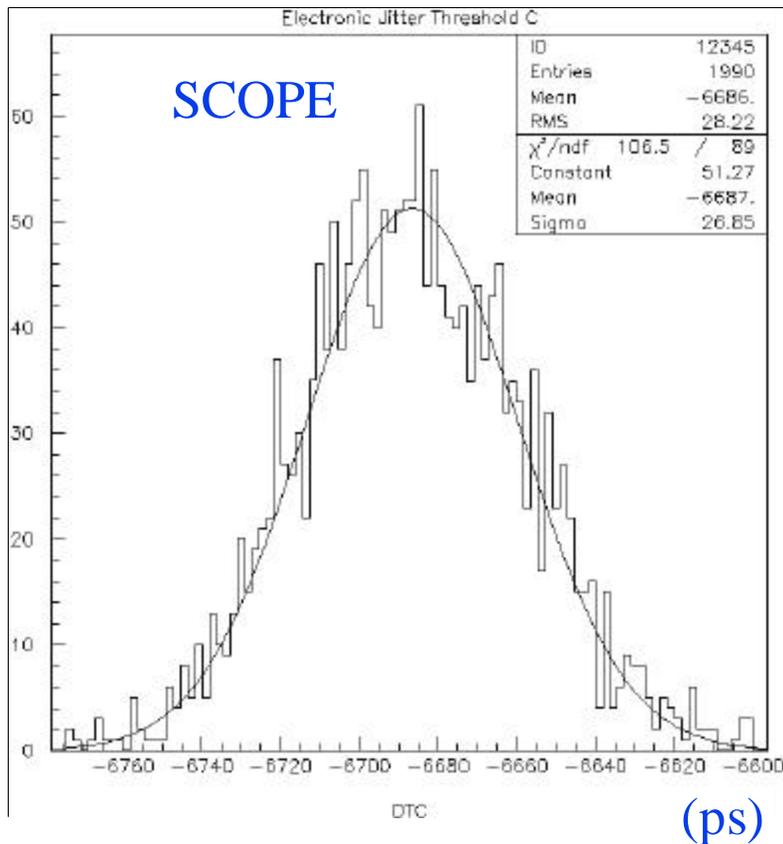
Working Conditions: PMT signal

- The PMTs are working inside the linearity range.



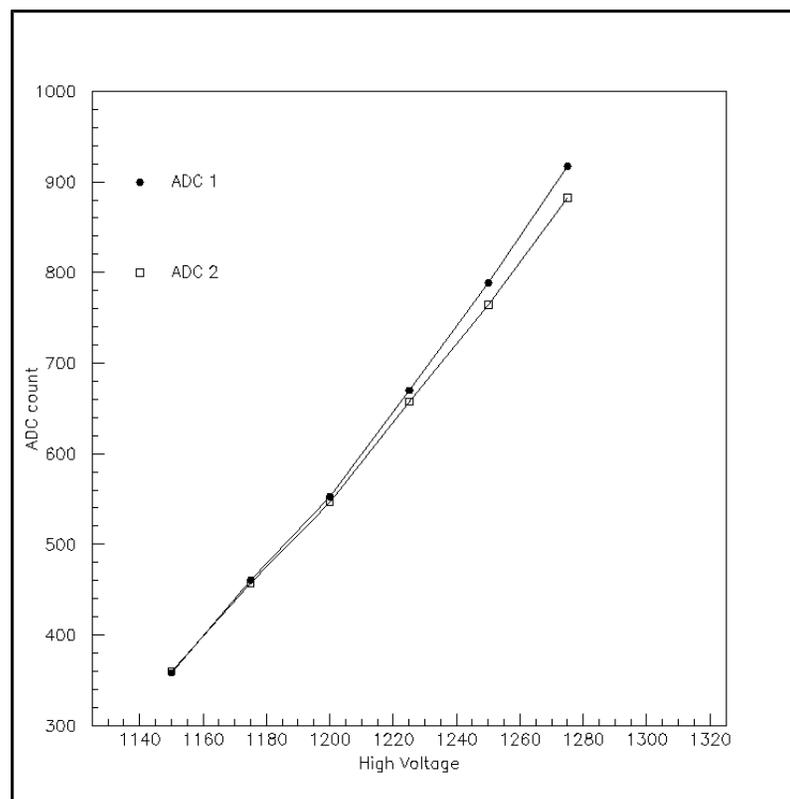
Working Conditions: Electronic Jitter

- The electronic jitter is under 30 ps. Tested using the same signal fanned out to the 3 channels.



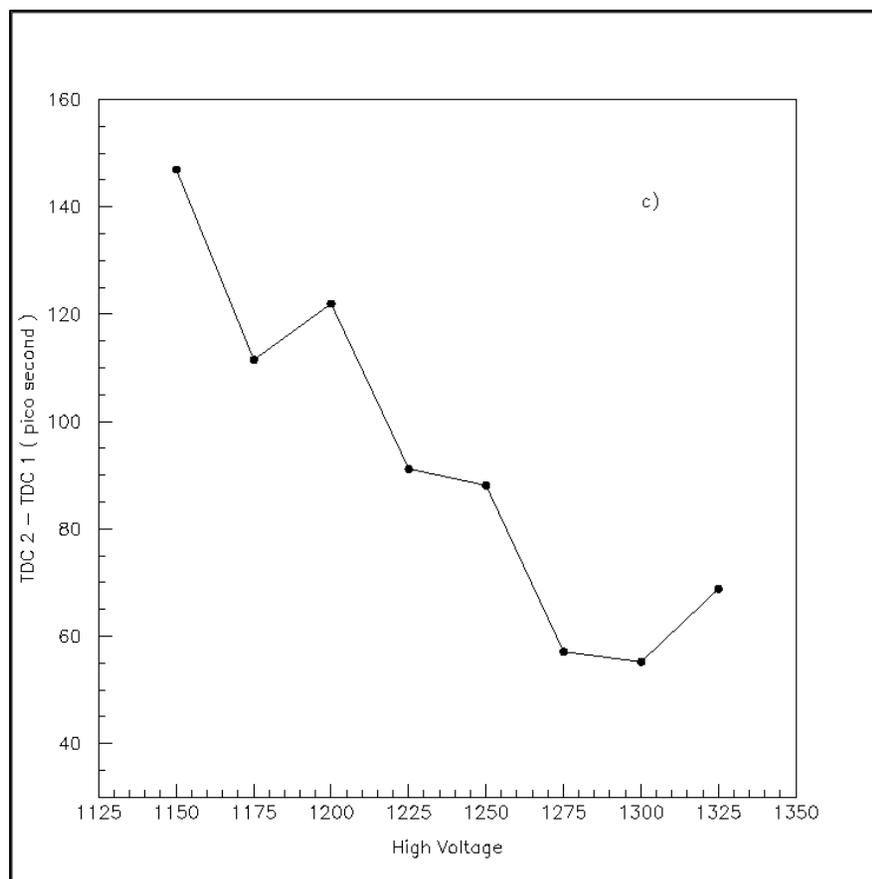
Gain (Charge) Vs HV

- First measurements (DA0012 and DA0019)



Timing Resolution

PMTs DA0012 and DA0019



Conclusions

- Electronics and Software have been tested successfully.
- Good timing resolutions have been obtained (under 100ps)
- Remaining points:
 - More detailed definition of the magnitudes and the parameters that should appear in the PMT database.
 - Tray to insert the PMTs inside the magnet (preliminary design is already done)