



STATUS OF 2D SCANS OF THE PMTS

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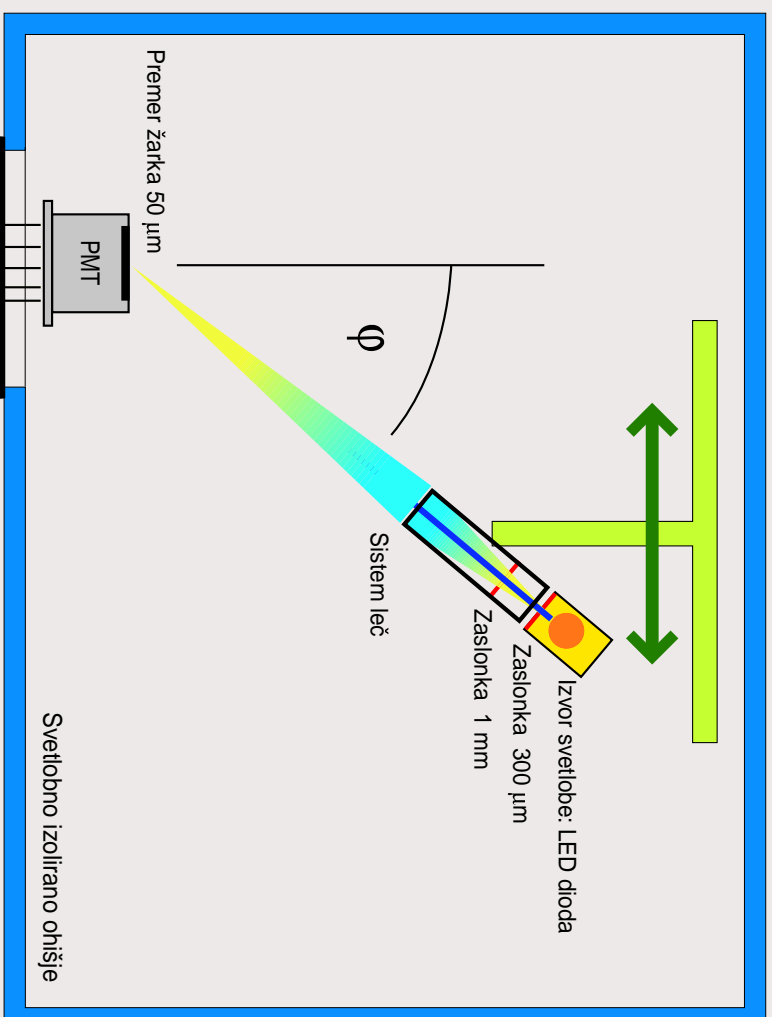
July 30, 2003
PID Upgrade Session, July 2003

- ❖ apparatus, status
- ❖ first tests (signal shapes, ADC spectra), results
- ❖ cross-talk measurements
- ❖ plans



Apparatus

The same apparatus is employed as was used for scanning the Hamamatsu R5900-M16 PMTs

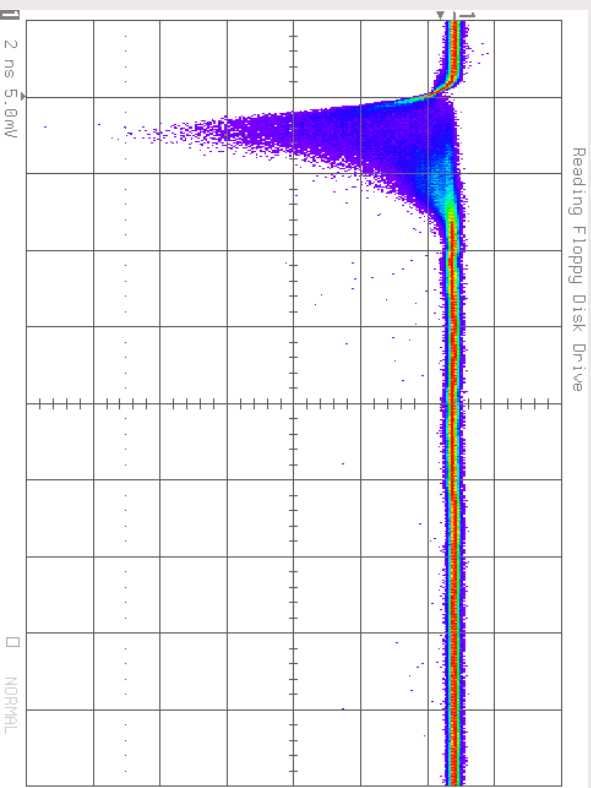




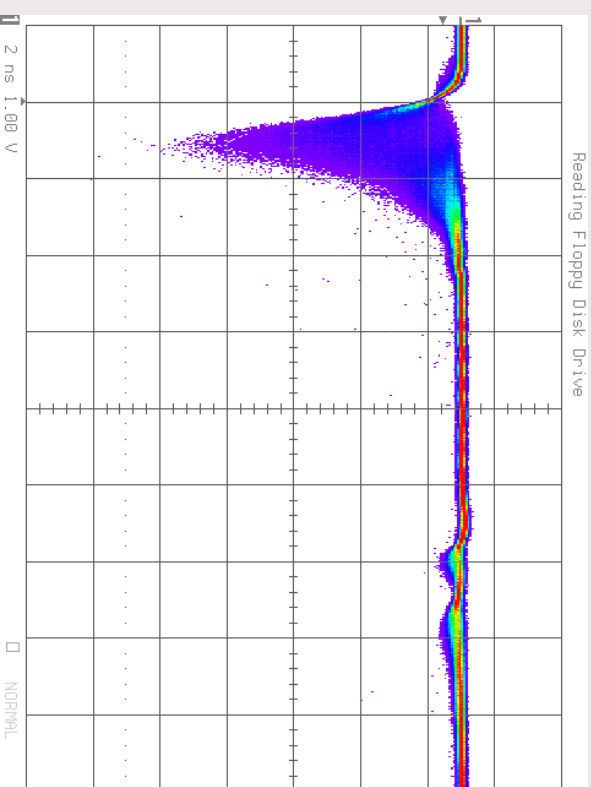
Pulses



signals, not amplified



signals, amplified





Flat panel study status



- ❖ PMT was powered and first tested in March, all OK
- ❖ During 2d scans a lot of noise, attributed to the table controls
- ❖ Order a new table (which is by now delivered), and in the meantime
- ❖ Measure ADC spectra and cross talk

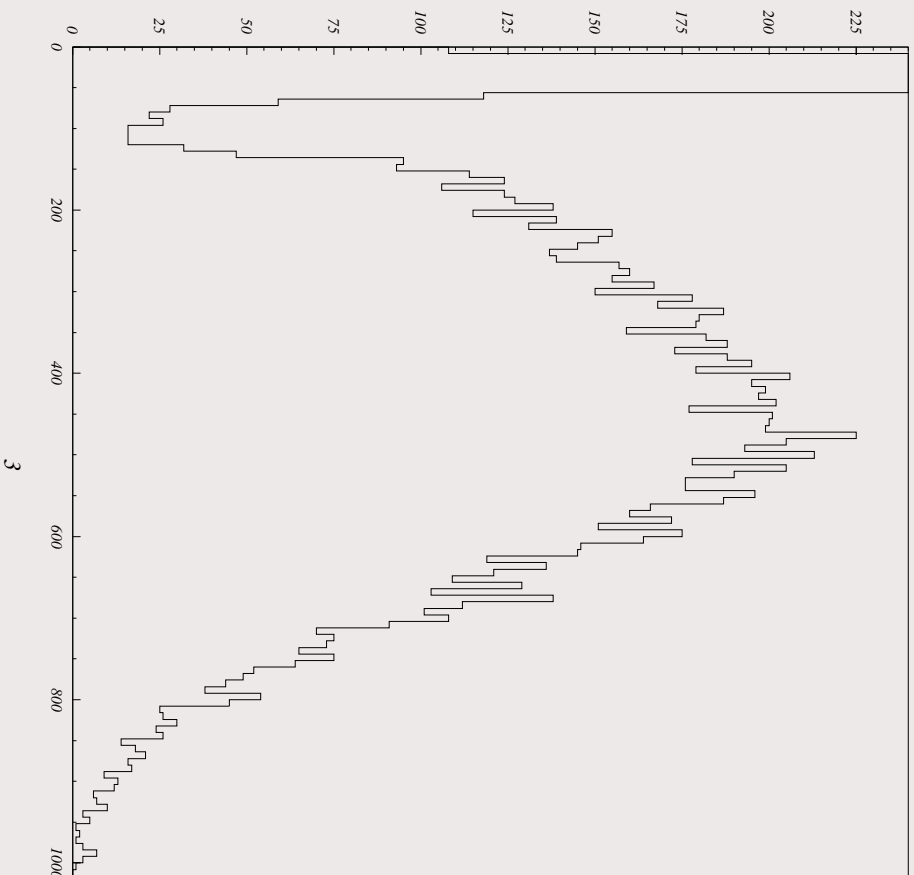
We now have a summer student and a diploma student to work on this issues.



ADC spectrum of the illuminated channel



$U = -1000V$, light source coordinates (15,5) = (5070,8451), LED: 1 = 0.5 mA



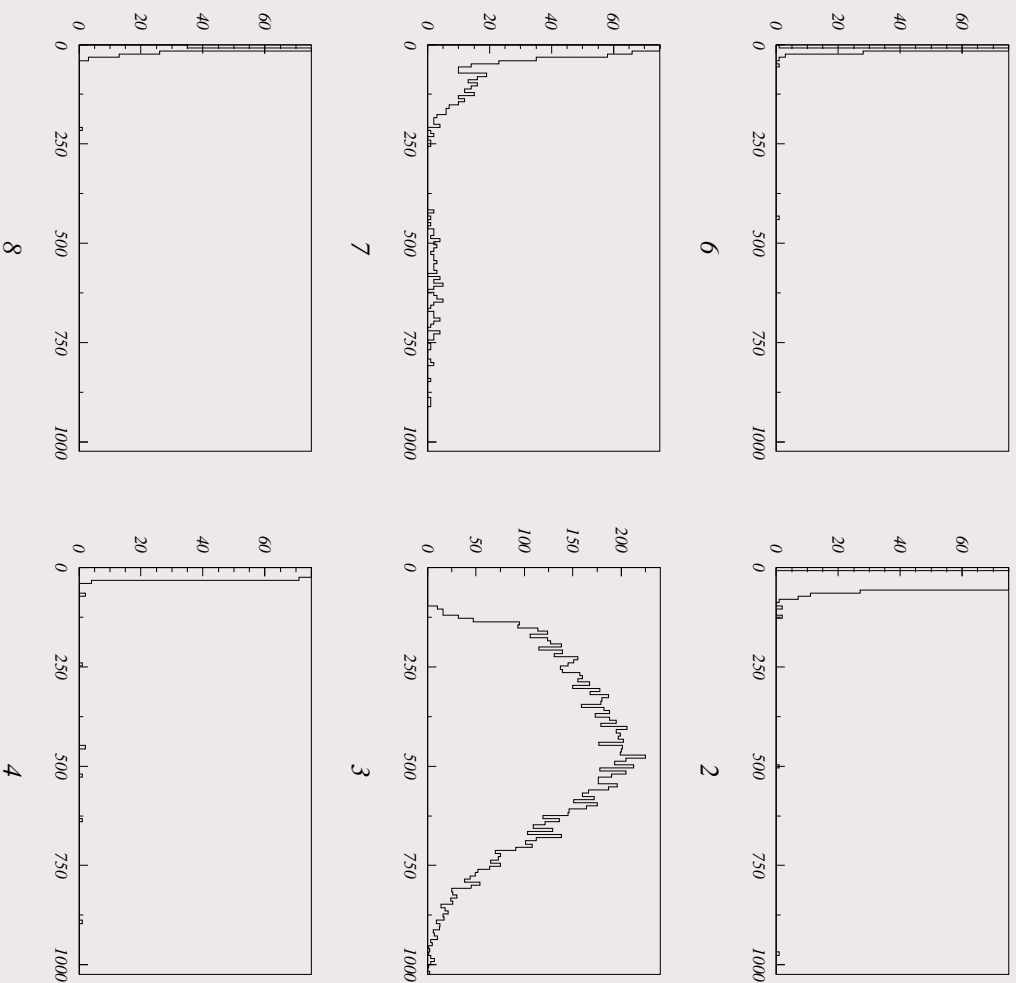
trigger on the last
dynode



ADC spectra of illuminated channel and neighbours



$U = -1000V$, light source coordinates (15,5) = (5070,8451), LED: $I = 0.5\text{ mA}$



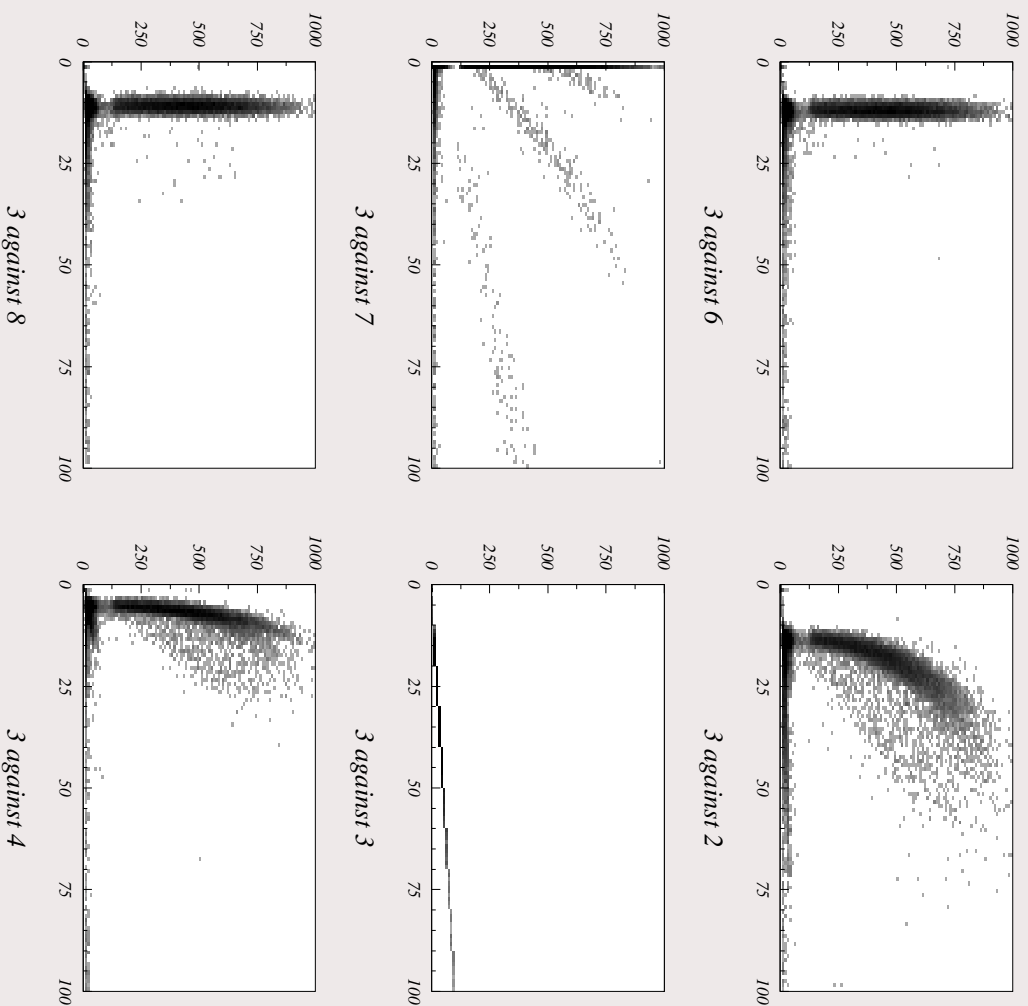
<- light source in the middle of channel 3 (2nd row, 2nd column)



Correlation of pulse heights of neighbours



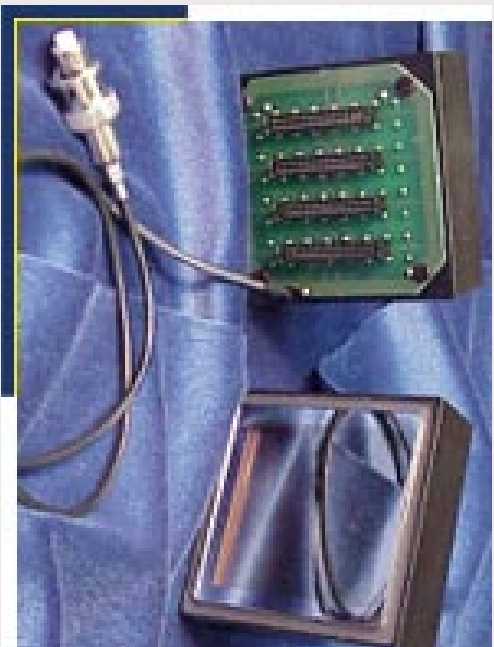
$U = -1000V$, light source coordinates (15,5) = (5070,8451), LED: $I = 0.5\text{ mA}$



<- light source in the middle of channel 3 (2nd row, 2nd column)



Test of Burle 85011 - a 64 channel MCP PMT



- ❖ Tube delivered
- ❖ Connectors and mounting for the Burle MCP PMT: ready
- ❖ To be mounted and tested next week (when Samo gets back)
- ❖ Repeat all the tests (ADC spectra, cross talk, noise) on the MCP PMT



Plans



- ❖ Replace the 2d table with a better one - a Newport
- ❖ Integrate the commands for new 2d table control in the DAQ program
- ❖ Carry out the full 2d scan on the MCP PMT and the flat panel PMT