

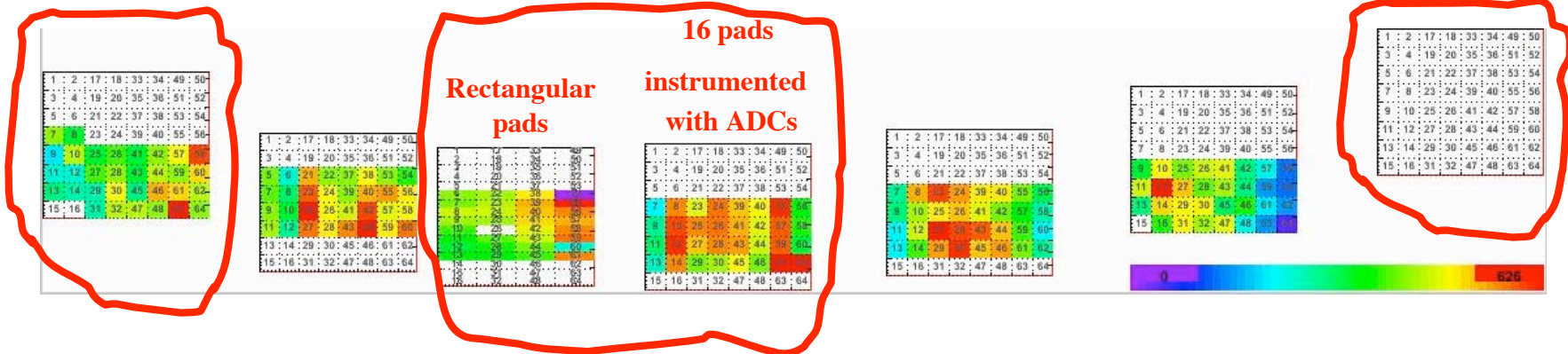
Changes in the July 2006 run

(PiLas laser calibration one day before the beam test started)

To be
instrumented
in the next run

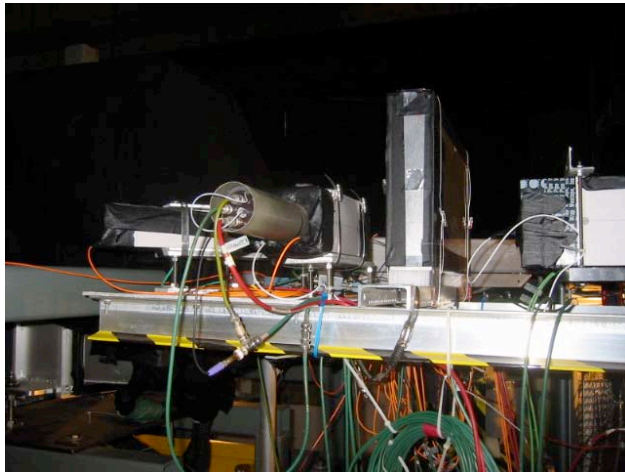
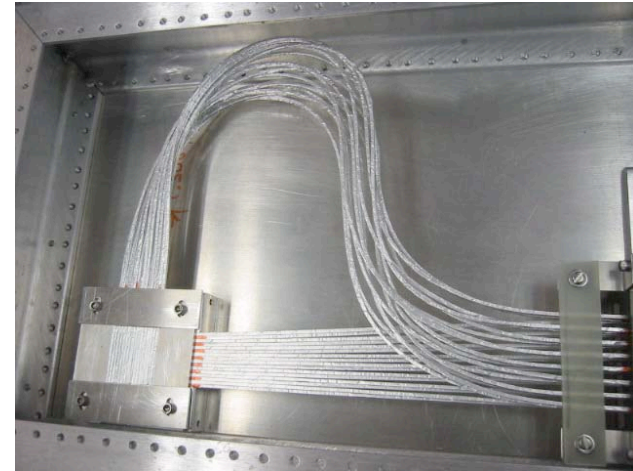
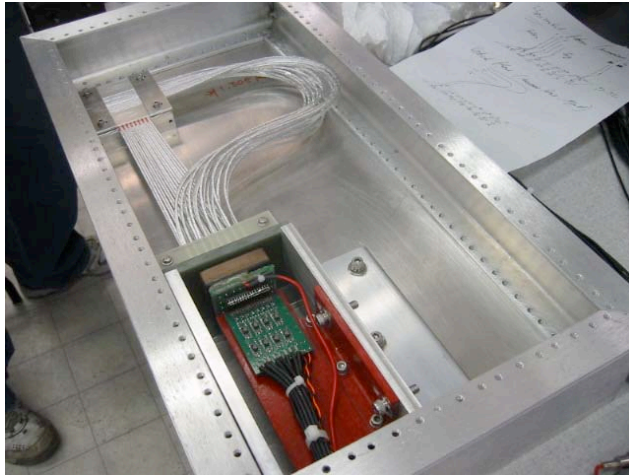
Added a new
MCP-PMT

Modified



- Added 32 new pixels in slot 1 (Burle MCP-PMT).
- Slot 3 will have a new 256-pad Hamamatsu MaPMT, which are converted to the rectangular pads.
- Slot 4 will have a Burle MCP-PMT with TDC & ADC readout (we want to compare the CFD timing with the leading-edge timing, etc.).
- Timing improvements of the Hamamatsu MaPMTs in slots 2 & 3 (reduce the amplifier gain and increasing the voltage to recommended values).
- Better timing calibration (add two new ways to do it).
- Many dead channels were fixed.
- Re-arrange the pad assignments to do a better coverage of the Cherenkov ring.
- Build the 2-nd fiber hodoscope.

The 2-nd hodoscope

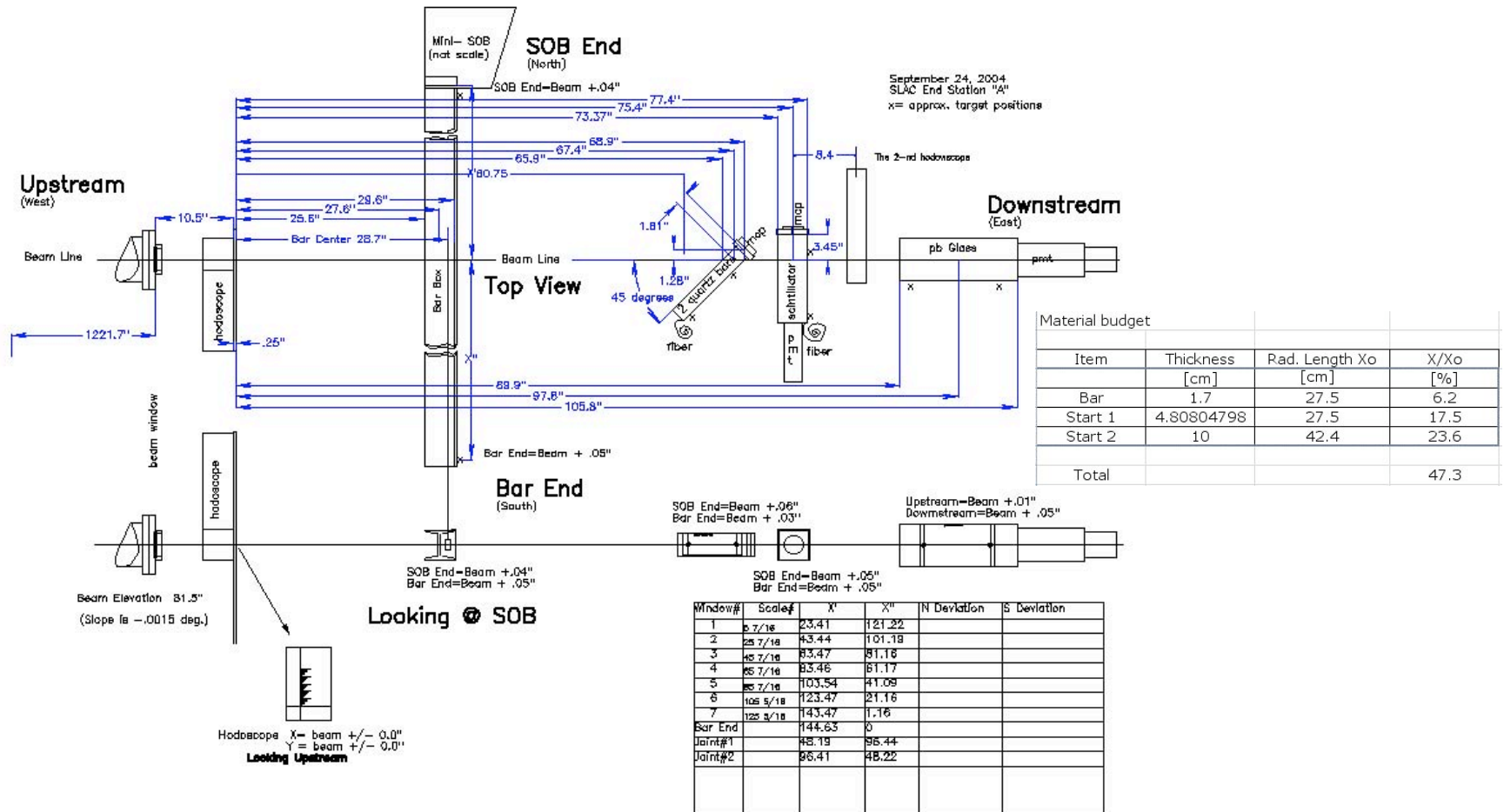


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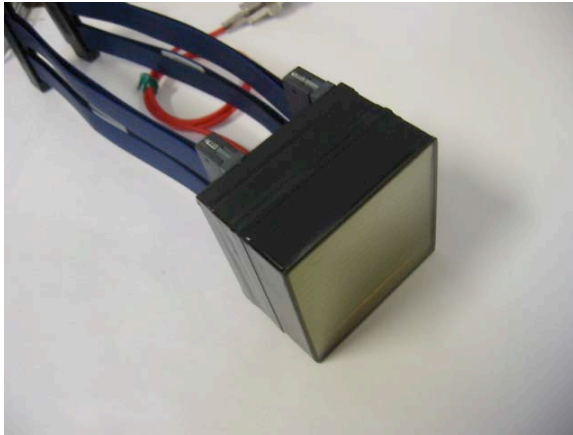
Where the 2-nd hodoscope was placed ?



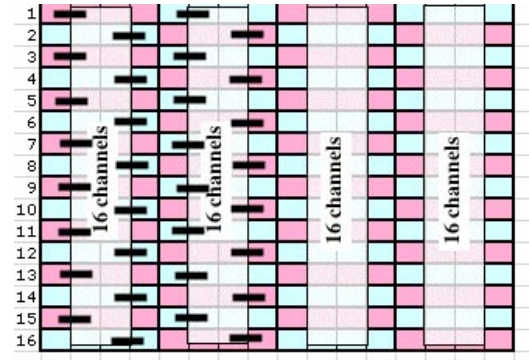
- There was no time to place it in front of the Start counters.
- Total mass in front of it: almost 50% of X₀

New 256-pixel Hamamatsu MaPMT H-9500 in Slot 3

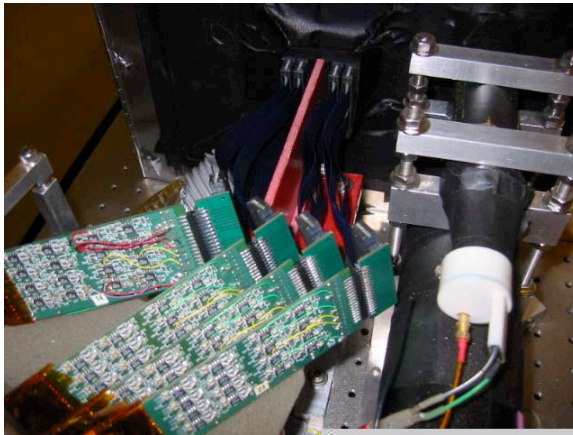
256-pad
MaPMT:



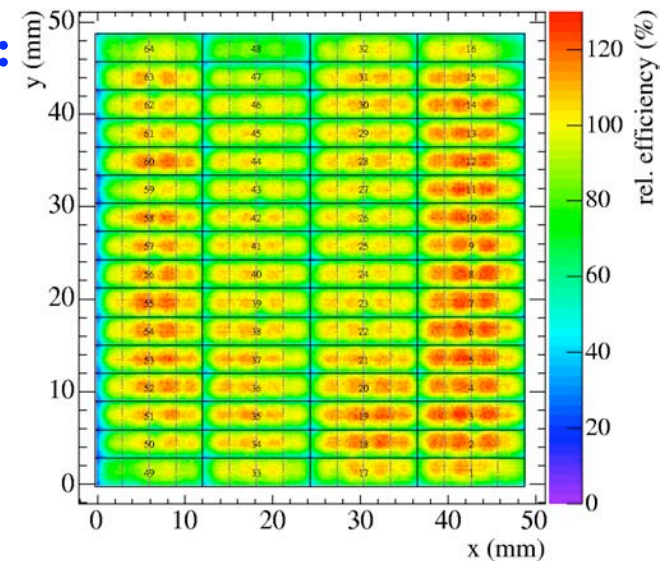
We made a small adaptor board to connect pads in the following way:



Develop
adaptor
boards:



2D scan:

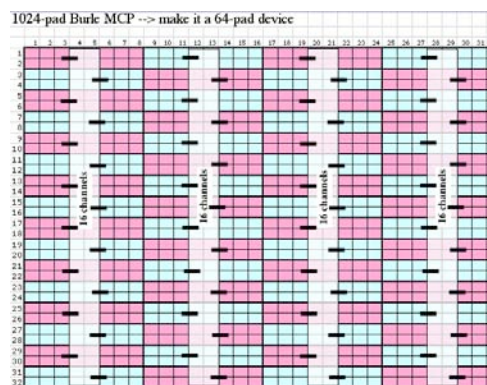


- 256 pixels (16 x 16 pattern).
- Pixel size: 2.8 mmx2.8 mm; pitch 3.04 mm
- 12 stage MaPMT, gain $\sim 10^6$, bialkali QE.
- Typical timing resolution $\sigma \sim 190$ -220 ps.
- Charge sharing is significant in this tube.

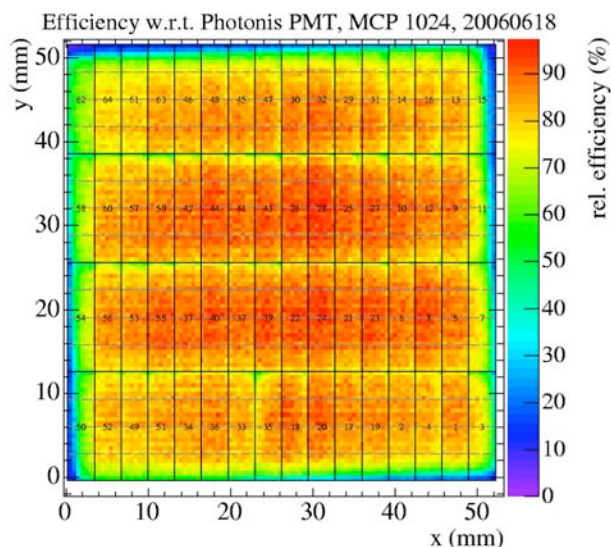
- **This tube was used in the slot 3**

“Open area” 1024-pixel Burle MCP 85021-600

1024-pad MCP-PMT: Burle was supposed to connect pads as follows:



2D scan:



- **Large rectangular pad: 2x8 little ones**
- **Small margin around boundary**
- Nominally 1024 pixels (32 x 32 pattern)
- Pixel size: $\sim 1.4\text{mm} \times 1.4\text{mm}$, pitch: 1.6 mm
- Ask Burle to make an adaptor board.
- This tube was supposed to be in slot 4. However, we found that pads extended to much larger region in the small size direction (2-3x). In addition, scope tests indicated that several pads are responding. **So, we decided not to use it.**