

Burle MCP PMT – status report

Peter Križan, Friday Meeting, May 20, 2005

Analysis of beam test data of last year tests is being finalized for publication, draft will be distributed in the next two weeks. The main issue there was the discussion of the nature of the clusters (charge sharing), and since Andrej left to CERN in November, there was nobody left to finalize the analysis. The results will be shown at one of the next Friday meetings

A separate paper on the surface scan studies, which were carried out by a student (S. Prodan) as a part of his diploma work, will be hopefully ready on a similar time scale.

We have been given a talk on the subject at the Photodetection conference end of June in Beaune (France).

Recent tube development: 10 μ m pores

After a long time of silence I got news from Burle.

The 10 μ m MCP Planacon is not yet offered as a standard product.

However, they have fabricated some 4-anode devices with 10 μ m MCPs. These devices have the same cathode-to-MCP spacing and MCP-to-anode spacing as in the standard 25 μ m Planacon (the one we have tested).

They will loan one to us for testing, we are discussing the details.

Further development: larger active area

The calculated **open-area-ratio** for the 10 μ m MCPs is about **63%**, which represents a significant increase over the **55%** ratio for the 25 μ m MCPs.

The **collection efficiency** is likely higher than **63%** due to fringe fields at the pore openings and collection of recoiled electrons.

They have a higher open-area-ratio tube design which should be available as a standard product in the next few months. Eventually, this product will be offered with 10 μ m MCPs.

The R+D person from Burle Scott Moulzolf will give a talk on the new tube with larger active area in the same section at the Photodetection conference, we will meet there.

Our tests of this new device

On-the-bench:

- Surface sensitivity scan
- Timing tests

-> hopefully in June

Magnetic field immunity

-> in summer, bring to Japan

Beam test?

-> October