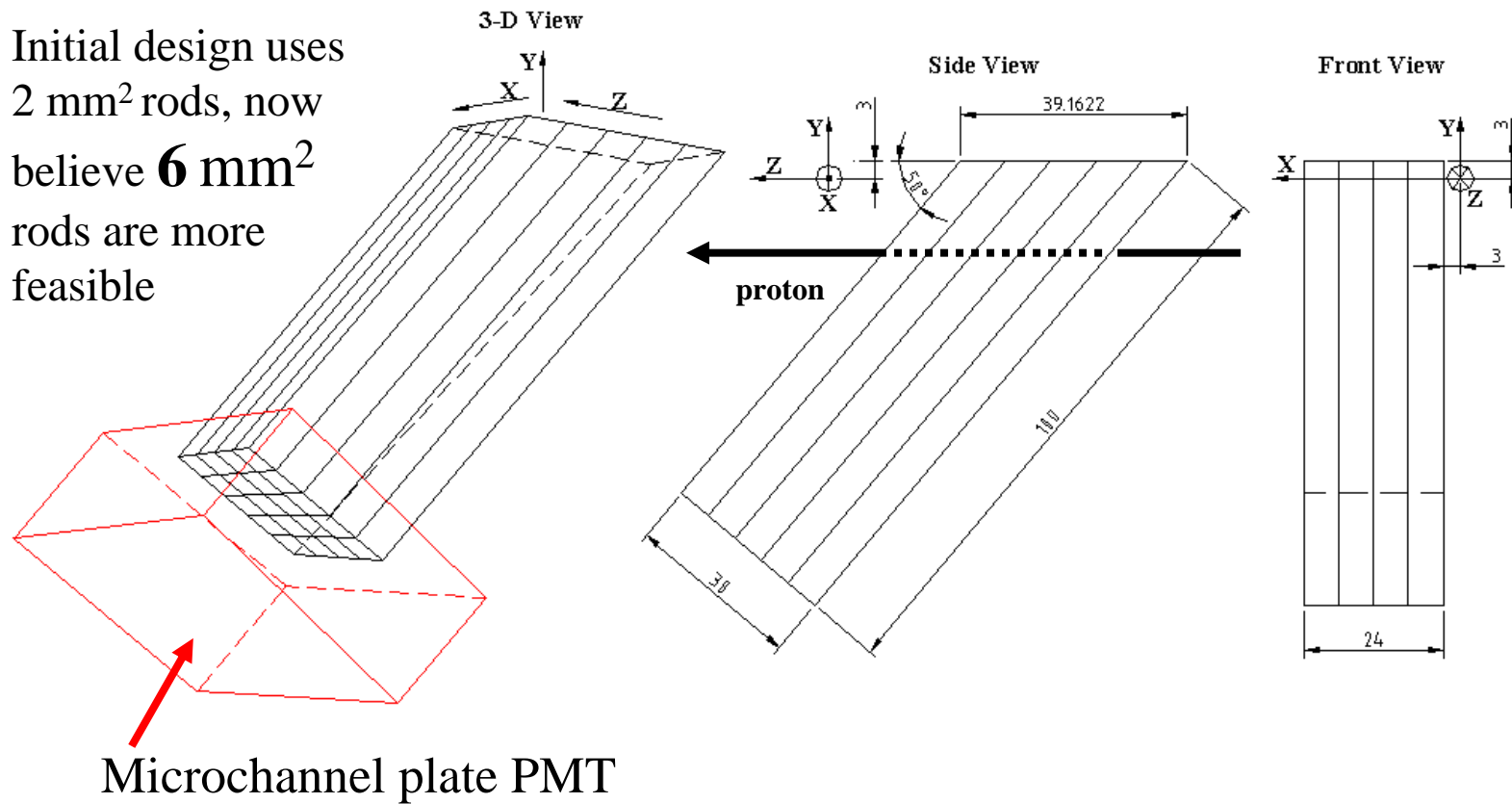


QUARTIC

**Preliminary UTA drawing
of Mike's concept for
a fast time resolution
Cerenkov counter:**

Initial design uses
2 mm² rods, now
believe **6 mm²**
rods are more
feasible



Updated Raw Cerenkov light in fused silica:

Mike's back of envelope -> 200 pe's

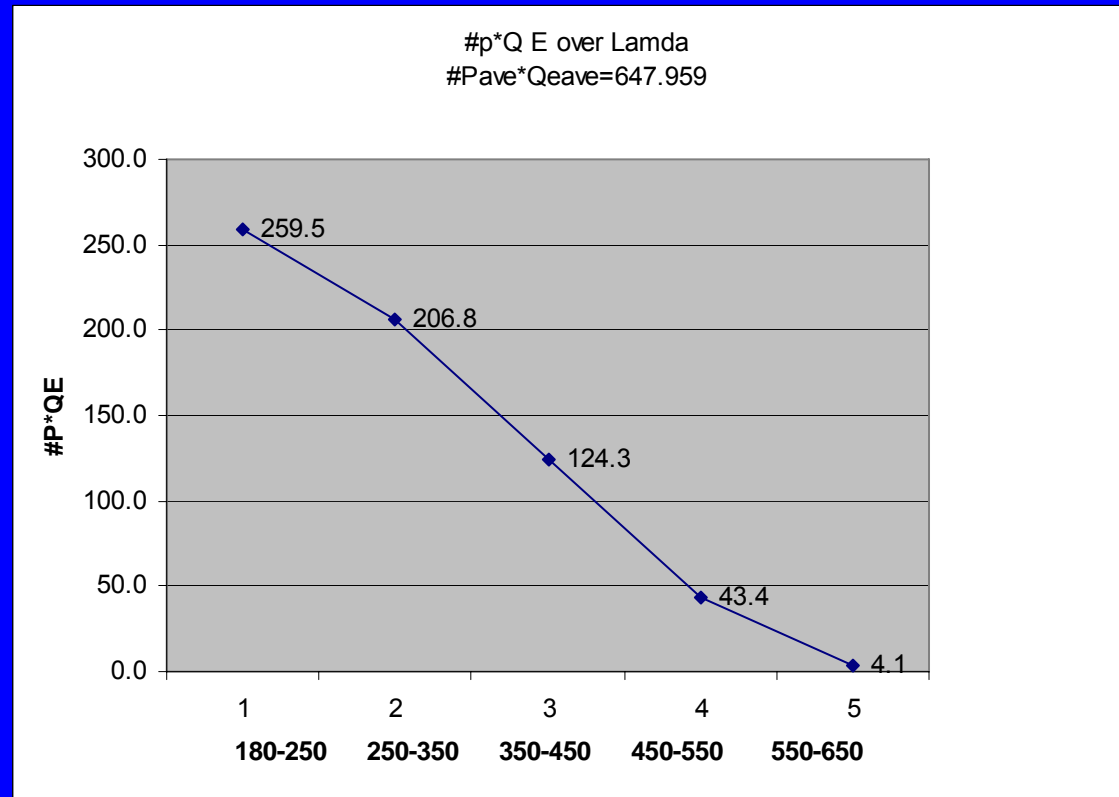
λ	#PE	QE	#p*Q E	θ_c	n
180-250	1652.6	15.70%	259.5	49.6	1.544
250-350	1148.7	18.00%	206.8	47.8	1.490
350-450	624.7	19.90%	124.3	47.2	1.471
450-550	394.3	11%	43.4	46.9	1.464
550-650	271.1	1.50%	4.1	46.7	1.458
total			638.0		

#P ave	θ_c ave	L	Q E ave	#P.ave*QE ave
4161.6	48.8	3.99cm	15.57%	648.0

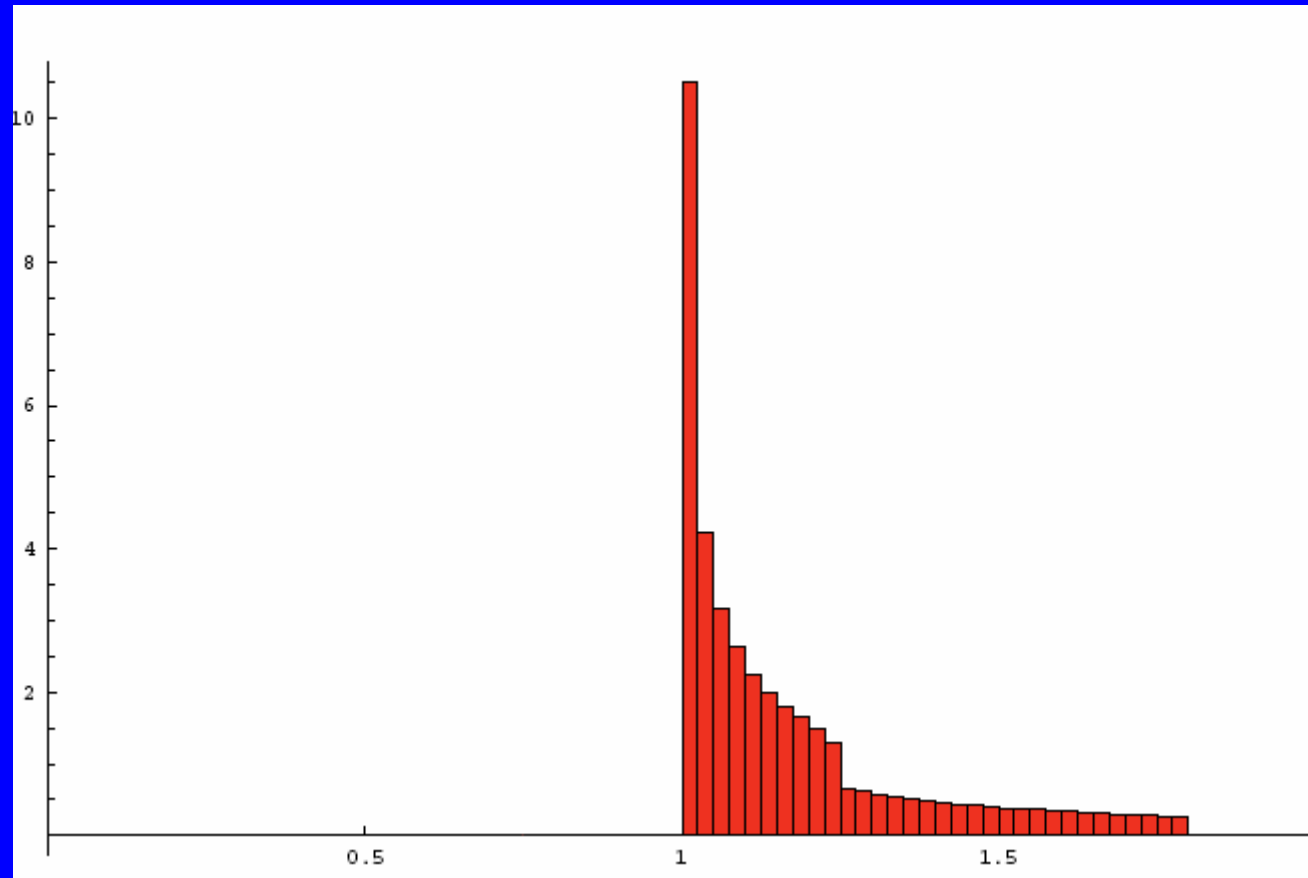
UV is important! 640-650 total, -> 130 pe/6mm rod (but this is still for whole cone, perhaps 10 pe's in reasonable time range—still in progress)

Updated Raw Cerenkov light in fused silica:

Same info as last slide, but in pictoral form



Ultra-preliminary time distribution:



11% of accepted pe's in first bin, but don't know time width of this bin! hot off the press!

New Quote from Specialty Glass

Fused Silica rod, 6mm \pm .051mm x 6mm \pm .051mm x 10cm \pm .025cm; 6mm x 10cm sides mechanically polished, less than or equal to 1 wave/inch flatness, within 1 degree parallelism; sides and ends perpendicular within 1 degree; ends ground.

Qty	50 pieces
Price	\$25.00 each
Ship	4 - 5 weeks ARO

Same as above except 4mm square cross section: 100 pieces @ \$18.00 ea

Andrew, the above prices represent SGP machining the entire part, which is not quite as cost effective as creating a rod, then finishing it. Although, it is probable that the mechanically polished faces (as above) would actually be flatter and smoother. Also, the edges will be sharper.

For reference 2mm rods would cost 3-4k\$; only 20 6mm rods needed per detector

UTA News

- **Submitted internal preproposal for Texas ARP**
- **Plan to submit DOE ADR**
- **Calculating background rejection as $f(\text{resolution})$**
- **Calculating time distribution**
- **Asked for distribution of protons as $f(x,y)$ at 420m; haven't got it yet**
- **Poster session at UTA leads to EE contacts**
- **Pursue other fused silica vendors, or just buy these?**
- **Have no PMT news**