MOSAIC project notes

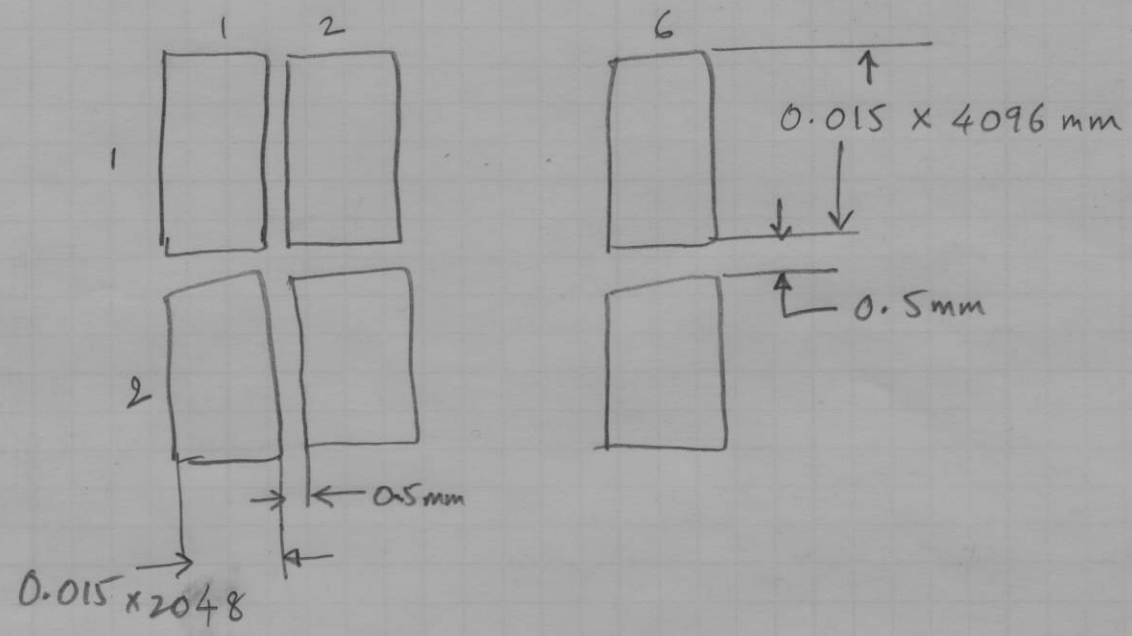
from L. Scherr

f# 2.45 ; f_{eff} = 3053.76 , dia = 1244.6 (49")

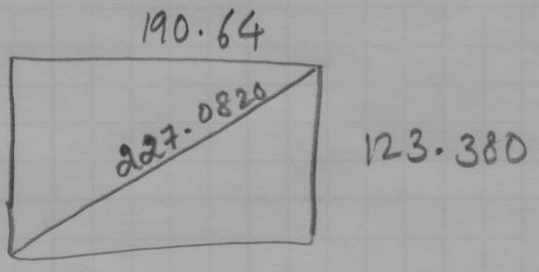
Plate scale : 14.805 μ/arcsec [67.54 "/mm]

Iris siz

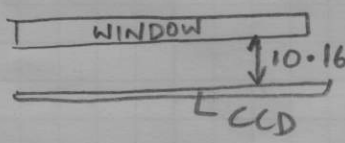
MOSAIC detector:



Focal plane



(as of now)

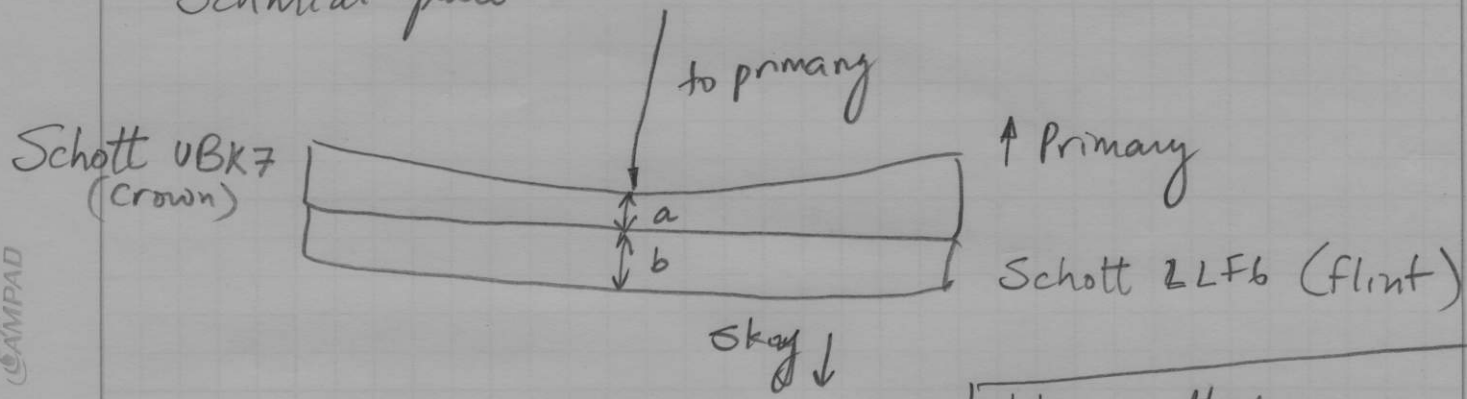


FoV (x-axis) = 3.5769

FoV (y-axis) = 2.3149

GRUBB PARSON'S drawing:

Schmidt plate



as per drawing:

$a = 0.75'' = 19.05mm$

$b = 0.5'' = 12.7\ mm$

t primary $= 241.05'' = 6122.7\ mm$

Note on thickness:-
Individual thickness not critical but total thickness not to exc
1.25" b must be close

Actual configuration design 6

Base radius $= 4608'' = 117043.2\ mm = R_B$

Surface profile from equation

$$h = \frac{r^2}{2R_B} + \frac{r^2}{2R_p} + ar^4 + br^6$$ [Even aspher

Surface	R_p	a	b
1	–	–	–
2	5663	-9.337×10^{-8}	–
3	−14065	$+3.675\times10^{-8}$	$+8.50\times10^{-13}$

Corrector position [* discrepancy #1]

Rabinowitz claims to have moved the corrector by 82.63

Hal's drawing suggests 75.75 mm

Corrector thickness #s [discrepancy #2]

LLF6	11.481	instead of 12.7 mm
BK7	17.2206	" " 19.02 mm

Hal says that we have 3/8" = 9.525 mm focus travel.

What ever one does (to first order)

RMS radius ≃ 15μ ⇒ FWHM = 2.35σ = 35.25μ

Note that 14.8μ is 1" @ focal plane

from Larry's Zemax

field flattner options :-

① ~1/2" (12.7 mm) Fused silica

② ~1/2" BAFN11 / SF10 doublet

→ Will need to check all check prescription for all optics in Zemax

Quest's field flattner (as per Larry) was 0.001 m from the FPA.