

Slit Mask and Below Focus Clear Apertures & Sizing Guider Optics

October 30, 2007

This memo has two purposes: (1) to define the region occupied by the science beam leaving the slit masks over the full 8' by 15' active area and (2) to define the required guider pickoff mirror dimensions.

Table 1. Rectangle enclosing the required clear aperture to pass the light from both beams over the full 8' by 15' active region of the slit mask. Center of the slit masks in X is +/-2.212 inches. The long axis of the slit masks is along the Y axis.

Z Position (below primary vertex)	X (Half Width in inches)	Y (Half Width in inches)
70.666 (vertex of telescope focal surface)	3.797	2.962
71.166	3.858	3.021
71.666	3.912	3.073
72.166	3.966	3.126
72.666	4.021	3.179
73.166	4.075	3.232
73.666	4.129	3.284
74.166	4.183	3.337
74.666	4.237	3.390
75.166	4.292	3.443
75.666	4.346	3.495
76.166	4.400	3.548
76.666	4.454	3.601

Table 2. Dimensions of Y strip to intercept guider light from the 0.5 inch wide (at telescope focus) guide star strip. (Strip is off-axis in Y direction between 9.198' and 10.458')

Z Position	Y Minimum (inches)	Y Maximum (inches)
70.666 (vertex of telescope focal surface)	3.634	4.134
73.144	3.909	(4.415)
74.526	(4.058)	4.566