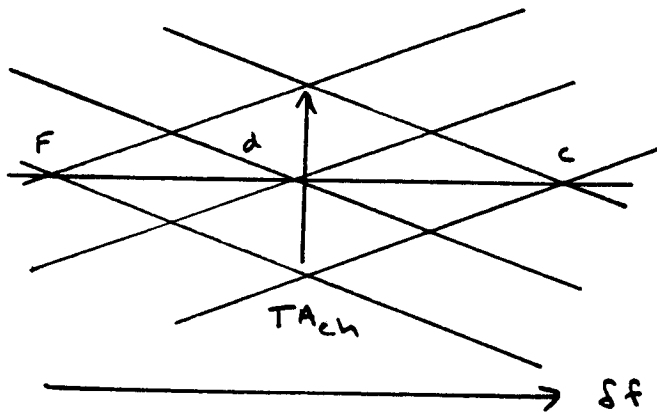


Chromatic Aberration and Telescopes



$$\frac{TA_{ch}}{\delta f / 2} = \frac{2 r_c}{f}$$

$$TA_{ch} = \delta f \frac{r_c}{f}$$

$$\delta f / f = \frac{1}{v}$$

$$TA_{ch} = \frac{r_c}{v}$$

$$\text{Angular Resolution} \sim \frac{TA_{ch}}{f} = .1 \text{ arc min} = .00003 \text{ rad}$$

$$f = \frac{TA_{ch}}{.1 \text{ arc min}} = \frac{r_c / v}{.00003 \text{ rad}}$$

$$r_c = D/2 = 50 \text{ mm}$$

$$v \sim 50$$

$$f = 34 \text{ m}$$