

$$\text{Supplement} + \text{max length} \leq \text{FOV}$$

$$\text{frame rate} > \frac{\text{speed}}{\text{Supplement}}$$

$$\frac{\text{FOV}}{\text{WD}} = \frac{\text{sensor width}}{\text{focal length}} = \text{tg } \alpha$$

$$\text{resolution (mm/px)} = \frac{\text{length}}{m^\circ \text{ pixel}} = \frac{\text{speed}}{\text{frequency}} = \frac{1}{\text{resolution}}$$

$$\text{FOV}_x = \text{resolution} \cdot m^\circ \text{ pixel}$$

$$\text{sensor width} = m^\circ \text{ pixel} \cdot \text{pixel size}$$

$$\text{shutter time} = \frac{\text{speed}}{\text{resolution} \cdot \text{blur}} = \frac{\text{blur}}{\text{frequency}}$$

$$\text{bit rate} = m^\circ \text{ pixel} \cdot \text{frequency}$$

$$\frac{\text{max}_x(y)}{m^\circ \text{ pixel}(y)} \cdot m^\circ \text{ pixel}_y(x) = \text{length} > \text{max}_y(x)$$

$$\text{smallest size defect} = \text{correct processing} \cdot \text{resolution}$$