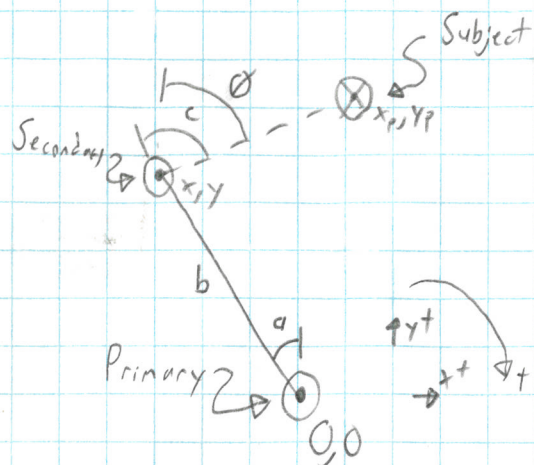


IRENE (Slider 2.0)

Movement Procedures



a: Angle from straight ahead (Primary)
CW Positive

b: Distance from origin (Primary)
to camera (Secondary)

c: Angle from neutral (Secondary)
CW Positive

θ : Angle from straight ahead (Secondary)
CW Positive

$$\textcircled{1} \theta = c + a$$

$$\textcircled{2} x = b \cdot \sin \theta$$

$$\textcircled{3} y = b \cdot \cos \theta$$

- Given two sets of x, y, θ : Solve for x_p, y_p

$$\textcircled{4} x_p = \frac{y_0 - y_1 + x_0 \cdot \tan \theta_0 - x_1 \cdot \tan \theta_1}{\tan \theta_0 - \tan \theta_1}$$

$$\textcircled{5} y_p = y_0 + (x_p - x_0) \cdot \tan \theta_0$$

- Given x, y, θ : Solve for a, b, c

$$\textcircled{6} a = \text{atan}(x/y) \quad (\text{rad})$$

$$\textcircled{7} b = \sqrt{x^2 + y^2}$$

$$\textcircled{8} c = \theta - a$$