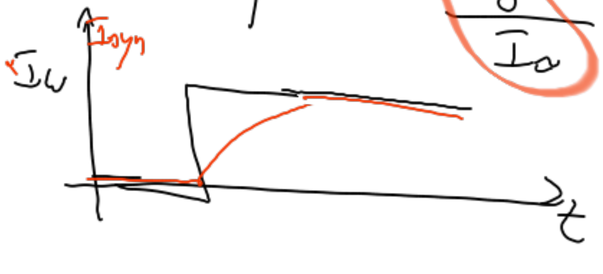
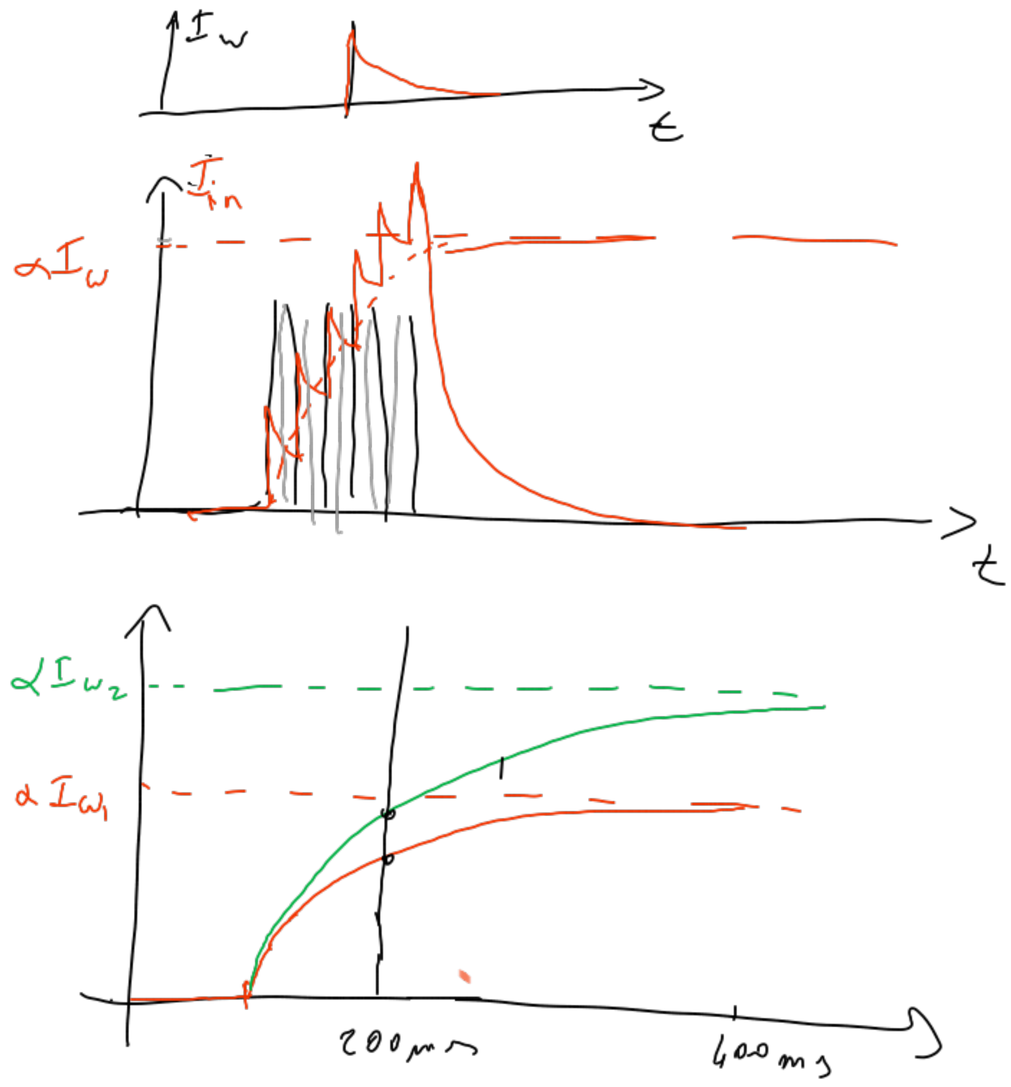
$$\frac{I_{thalf} \cdot I_{ca}}{I_{tauhalf}}$$

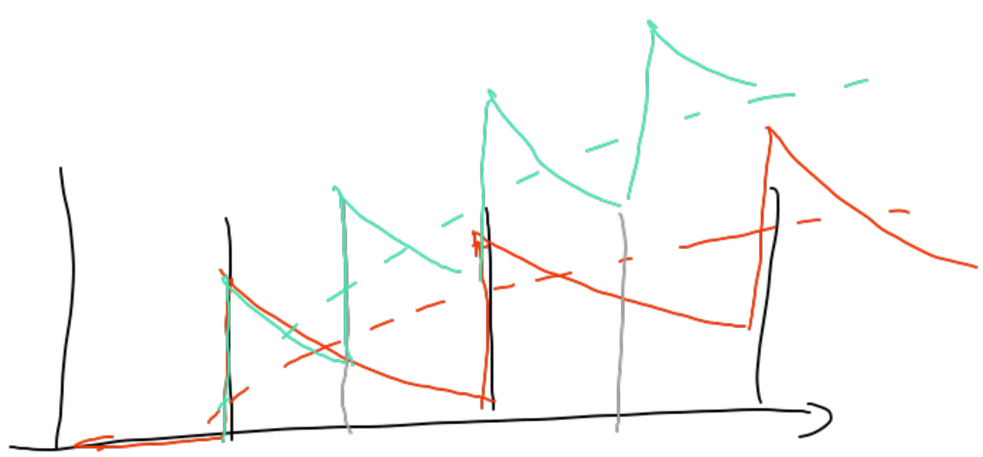
$$\tau \frac{d}{dt} I_{syn} + I_{syn} = \frac{I_g I_w}{I_\tau} = \alpha$$

$$\tau = \frac{C U_T}{\kappa I_\tau} \qquad I_g = \alpha I_\tau$$

$$I_{syn}(t) = \frac{I_g I_w(t)}{I_a}\left(1 - e^{-t/\tau}\right)$$







$$\tau_m \frac{d}{dt} I_{mem} + I_{mem} = \alpha I_w - \alpha I_{ahp} + f(I_{mem})$$

$$e^{f'(I_{mem})}$$

$$\tau_{ahp} \frac{d}{dt} I_{ahp} + I_{ahp} = \beta I_{Ca}$$

$$\beta = \frac{I_{thahp}}{I_{\tau_{ahp}}}$$

$$\alpha = \frac{I_{th}}{I_{\tau_{ca}}}$$