$$A = k_1 \frac{C_i - \Gamma^*}{k_2 + C_i}$$

$$A = g_s(C_a - C_i)$$

$$E(g_s) = \alpha g_s D$$

$$\nu \frac{d\theta}{dt} = I(t) - E(g_s)$$

$$J = A(g_s) - \lambda E(g_s)$$

$$\frac{\partial A}{\partial g_s} - \lambda \frac{\partial E}{\partial g_s} = 0$$

$$E_{\text{crit}} = k\nu(\theta - \theta_w)$$