



$$\frac{d[x]}{dt} = \Delta \left(\frac{(k_1 + \rho x^2)}{1 + x^2 + \sigma y^2} \right) - x$$
$$\frac{d[y]}{dt} = \Delta \left(\frac{k_2 + \rho x^2}{1 + x^2} \right) - y$$