CalciumSystemEquations

February 10, 2022

$$\dot{\rho}_{11} = i\rho_{13}\Omega(3,1,0) + \frac{1.0\rho_{22}}{\tau} - i\rho_{31}\Omega(3,1,0) + \frac{1.0\rho_{33}}{\tau} + \frac{1.0\rho_{44}}{\tau} \tag{1}$$

$$\dot{\rho}_{22} = -\frac{\rho_{22}}{\tau} \tag{2}$$

$$\dot{\rho}_{23} = i\rho_{21}\Omega(3,1,0) - \frac{\rho_{23}}{\tau} \tag{3}$$

$$\dot{\rho}_{24} = -\frac{\rho_{24}}{\tau} \tag{4}$$

$$\dot{\rho}_{32} = -i\rho_{12}\Omega(3,1,0) - \frac{\rho_{32}}{\tau} \tag{5}$$

$$\dot{\rho}_{33} = -i\rho_{13}\Omega(3,1,0) + i\rho_{31}\Omega(3,1,0) - \frac{\rho_{33}}{\tau} \tag{6}$$

$$\dot{\rho}_{34} = -i\rho_{14}\Omega(3,1,0) - \frac{\rho_{34}}{\tau} \tag{7}$$

$$\dot{\rho}_{42} = -\frac{\rho_{42}}{\tau} \tag{8}$$

$$\dot{\rho}_{43} = i\rho_{41}\Omega(3,1,0) - \frac{\rho_{43}}{\tau} \tag{9}$$

$$\dot{\rho}_{44} = -\frac{\rho_{44}}{\tau} \tag{10}$$

$$\dot{\rho}_{12} = -\frac{\rho_{12}}{2\tau} - i\rho_{32}\Omega(3,1,0) \tag{11}$$

$$\dot{\rho}_{13} = -i\rho_{11}\Omega(3,1,0) - \frac{\rho_{13}}{2\tau} - i\rho_{33}\Omega(3,1,0) \tag{12}$$

$$\dot{\rho}_{14} = -\frac{\rho_{14}}{2\tau} - i\rho_{34}\Omega(3,1,0) \tag{13}$$

$$\dot{\rho}_{21} = -\frac{\rho_{21}}{2\tau} + i\rho_{23}\Omega(3,1,0) \tag{14}$$

$$\dot{\rho}_{31} = i\rho_{11}\Omega(3,1,0) - \frac{\rho_{31}}{2\tau} + i\rho_{33}\Omega(3,1,0) \tag{15}$$

$$\dot{\rho}_{41} = -\frac{\rho_{41}}{2\tau} + i\rho_{43}\Omega(3,1,0) \tag{16}$$