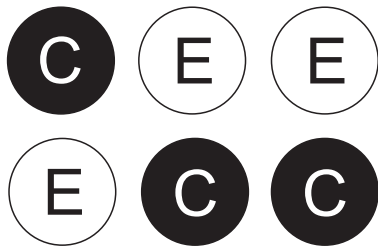


$N \equiv$ number of sites

$N_c \equiv$ number of covered sites

$N_e \equiv$ number of empty sites



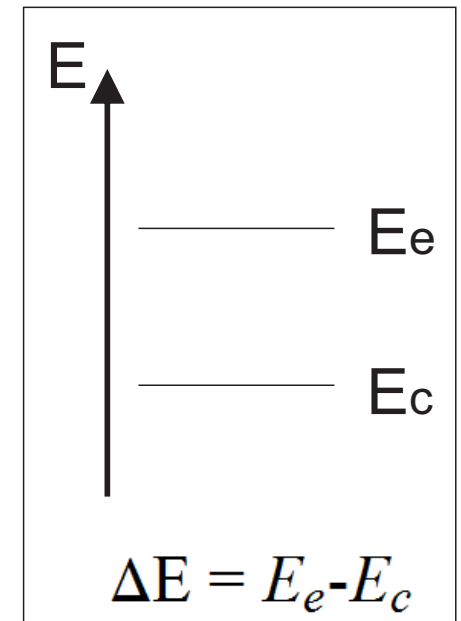
Joint

Boltzmann constraint

$$\frac{t_e}{t_c} = e^{-\frac{\Delta E}{k_B T}}$$

,therefore

$$\frac{t_e}{t_c} \approx \frac{\lambda_d}{\lambda_a} \Rightarrow \lambda_d = \lambda_a e^{-\frac{\Delta E}{k_B T}}$$



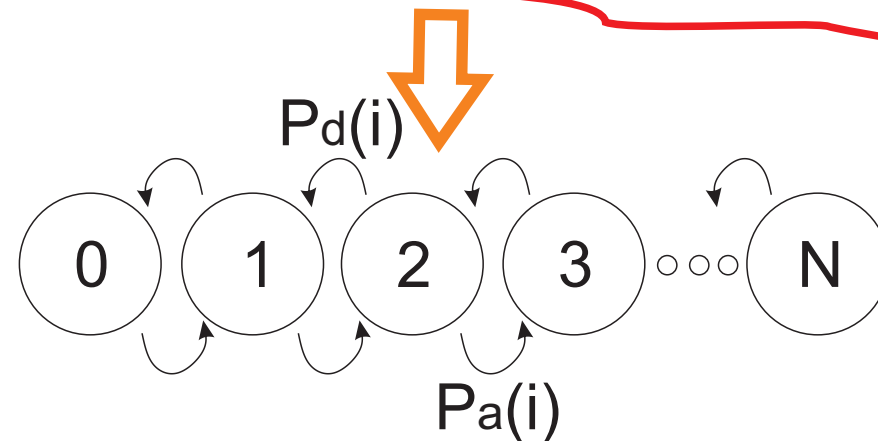
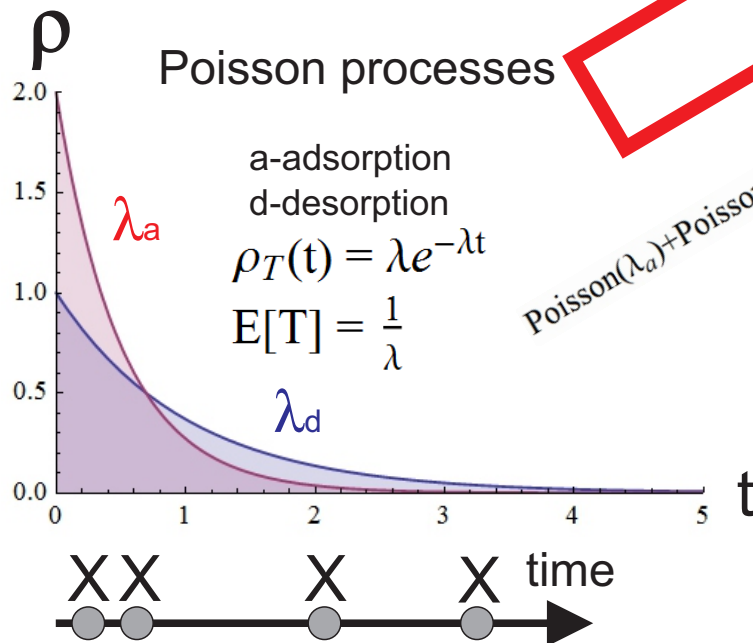
time increment:

$$E[\Delta t] = \frac{1}{N_e \lambda_a + N_c \lambda_d}$$

transition probability:

$$P_a(i) = \frac{N_e \lambda_a}{N_e \lambda_a + N_c \lambda_d}$$

transition frequency: $W_a(i) = N_e \lambda_a$



Markov chain