

Технический слайд

$$g_k(y_k) \propto \exp\left(J y_k \sum_{j \in N_k(k)} \mu_j\right) = \exp(y_k M), \quad M = J \sum_{j \in N_k(k)} \mu_j$$

$$g_k(+1) = \frac{e^M}{e^M + e^{-M}} = \frac{1}{1 + e^{-2M}} = \sigma(2M)$$

$$\mu_k = g_k(+1) - g_k(-1) = \frac{1}{1 + e^{-2M}} - \frac{e^{-2M}}{1 + e^{-2M}} = \frac{1 - e^{-2M}}{1 + e^{-2M}} = \frac{e^M - e^{-M}}{e^M + e^{-M}} = \tanh(M)$$

