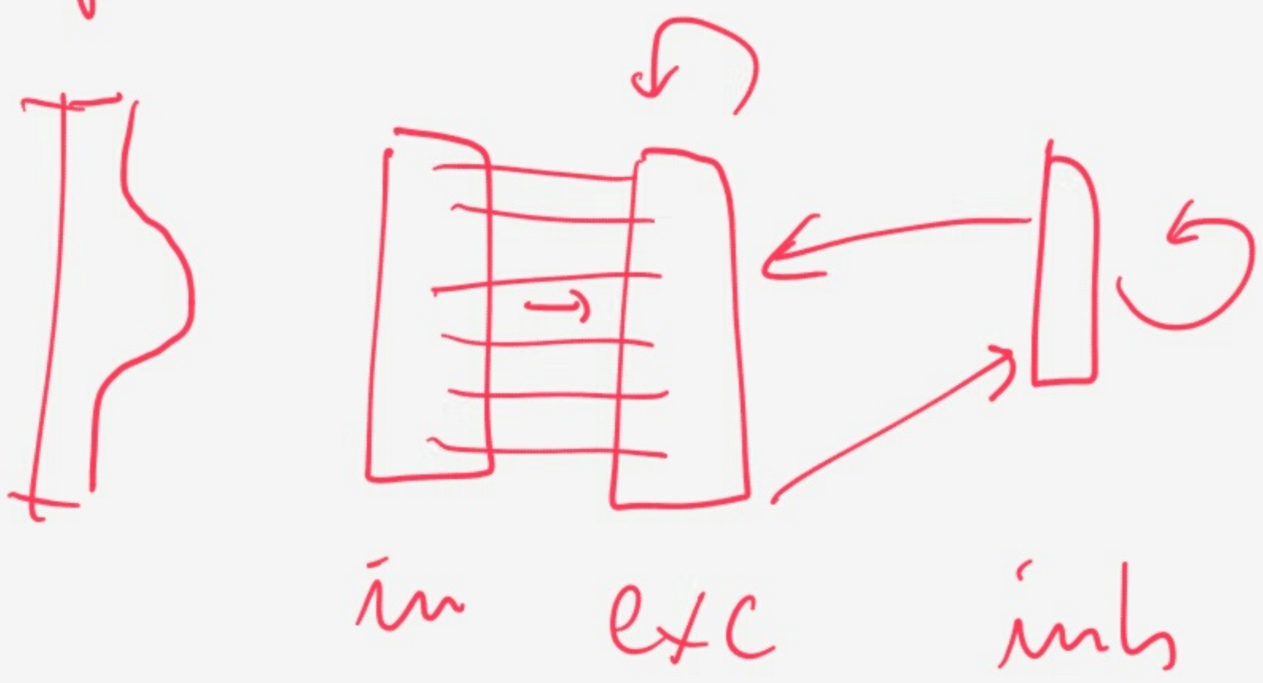
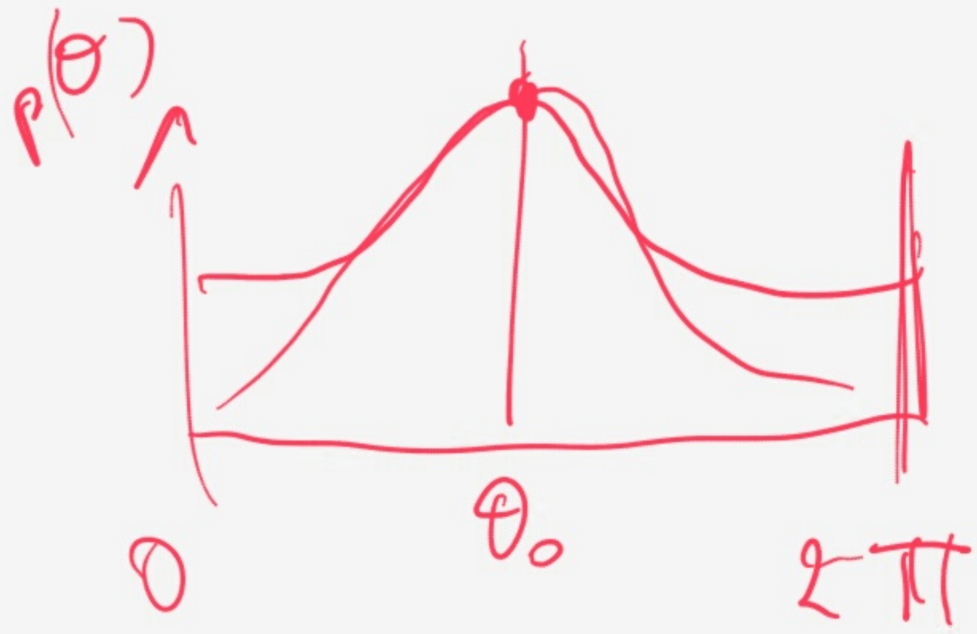
Ring model



$[0, 180 \times 6[$

↓

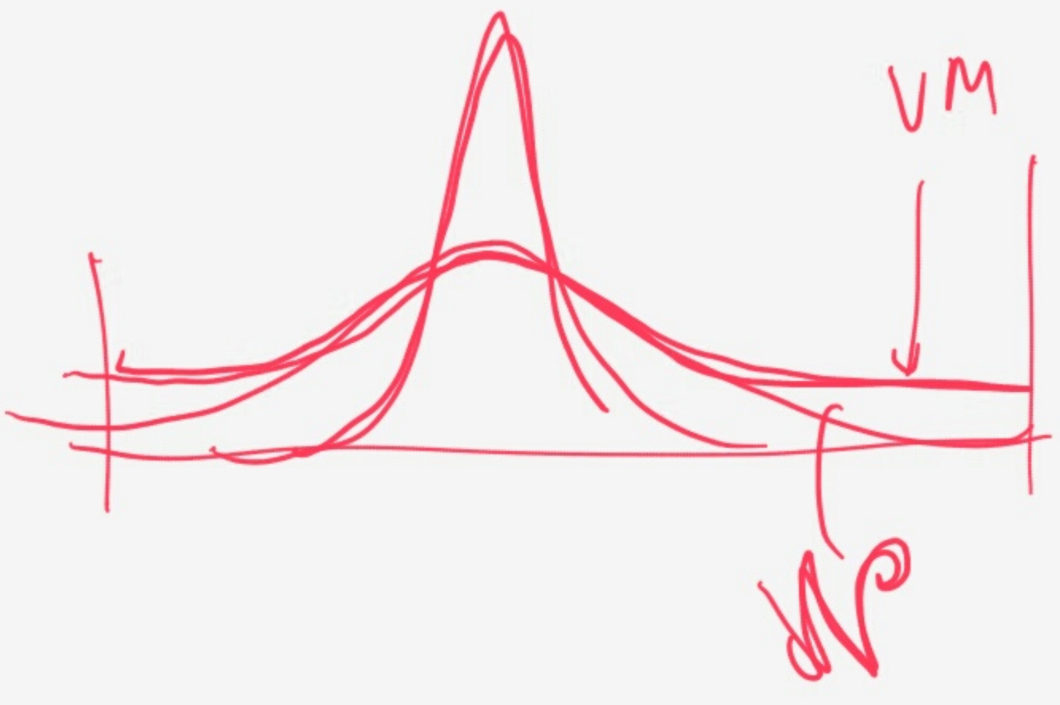
1 neuron / 10°



$$p(\theta) = \frac{1}{Z} e^{\kappa \cos(\theta - \theta_0)} \qquad \kappa = \frac{1}{\sigma^2}$$

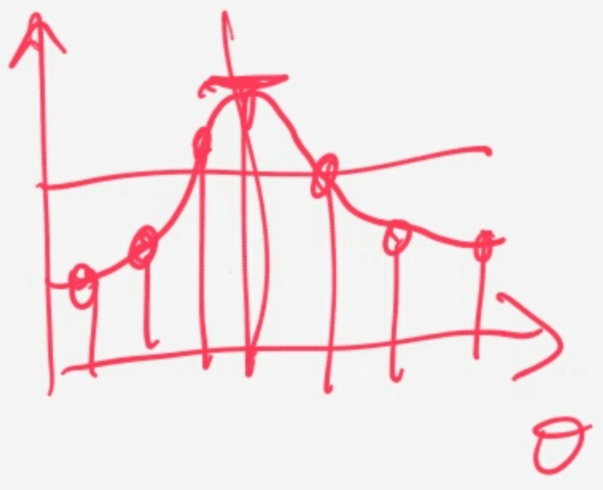
$$\cos(\theta - \theta_0) \simeq 1 - \frac{(\theta - \theta_0)^2}{2}$$

$$p(\theta) \propto \frac{1}{Z} e^{\kappa} \times e^{-\frac{(\theta - \theta_0)^2}{2\left(\frac{1}{\kappa}\right)}} \simeq e^{-\frac{(\theta - \theta_0)^2}{2\sigma^2}}$$



- Y. Taouali, 2015
modèle de poisson de l'entrée

$$R(\theta) = I_{max} * f(\theta ; \theta_0, B_\theta)$$



$$\theta_i = \frac{i \times \pi}{N} \quad 0 \leq i < N$$

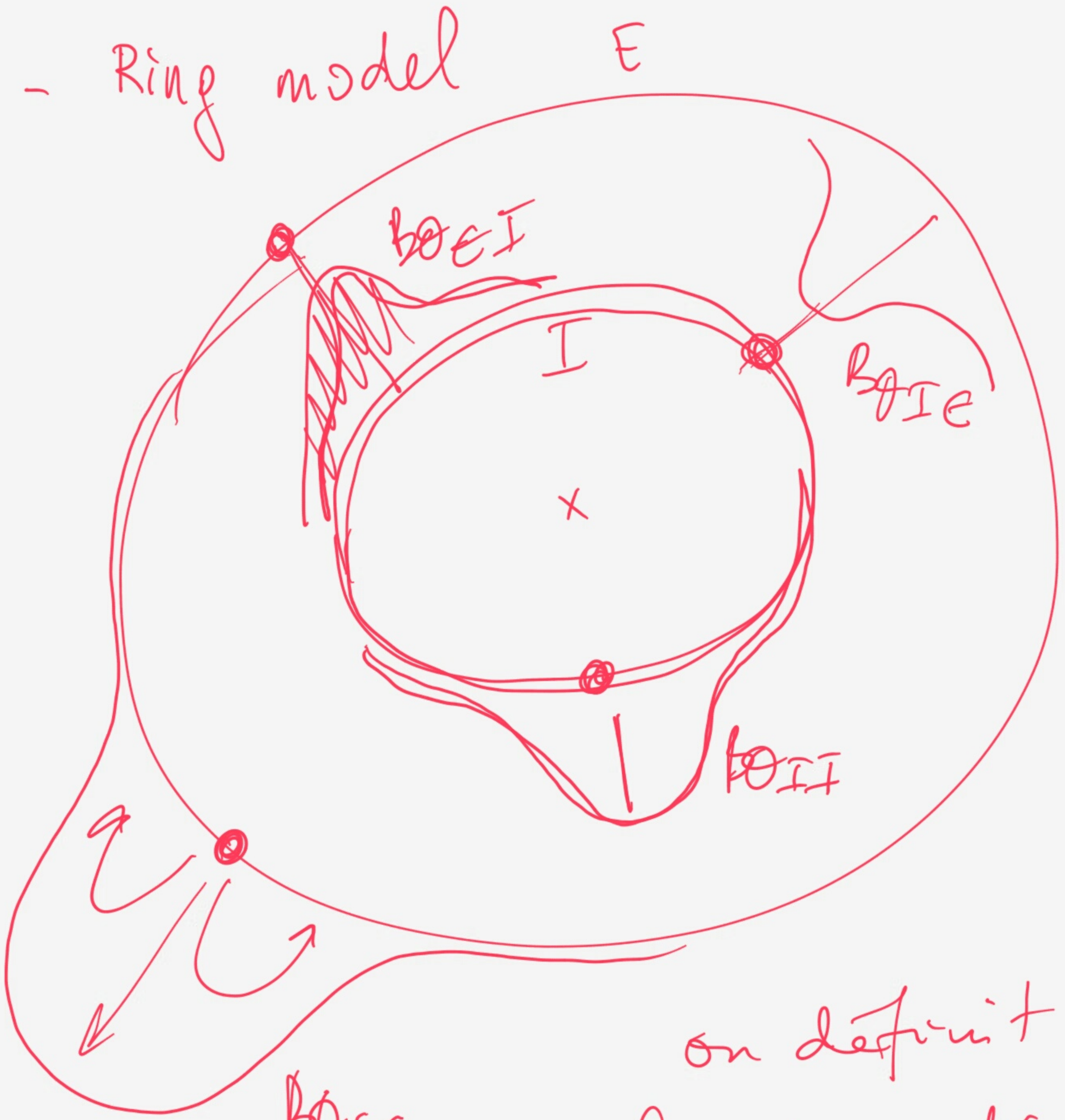
$N = 6 \times 180 = 1080$ < 864 Exc / 216 Inh

$$f(\theta ; \theta_0, B_\theta) = \frac{e^{\cos 2(\theta - \theta_0)/4B_\theta^2}}{e^{1/4B_\theta^2}}$$

$$= e^{(\cos 2(\theta - \theta_0) - 1)/4B_\theta^2}$$

→ définit la tuning function

- Ring model



on définit
la connections
latérales par
des tuning functions
similaires

$$W_{ij} = W_{max} \cdot f(\theta_i, \theta_j, BG_W)$$