

# Dynamics of pruning in simulated large-scale spiking neural networks

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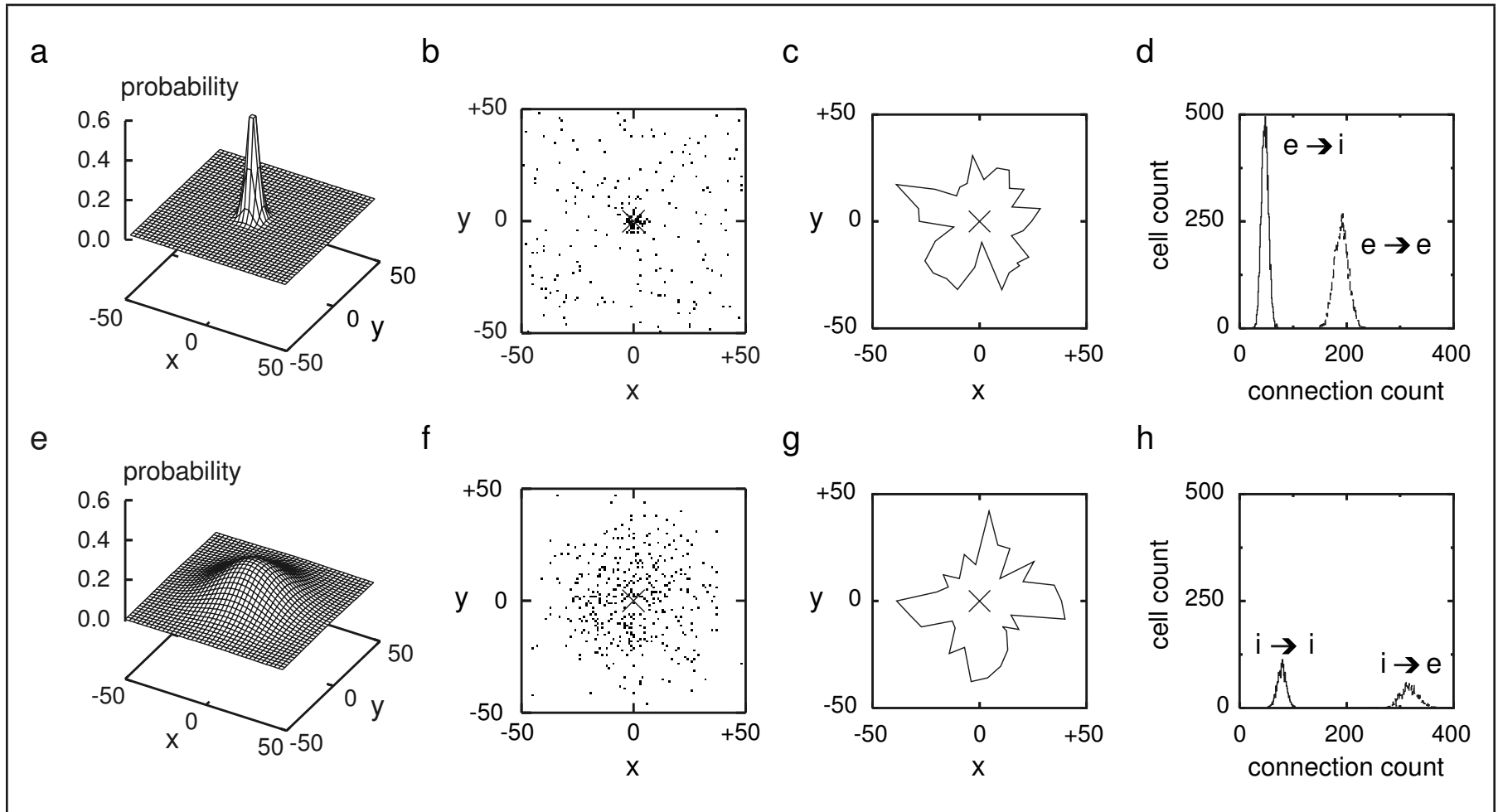
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- model synaptic pruning after over-growth

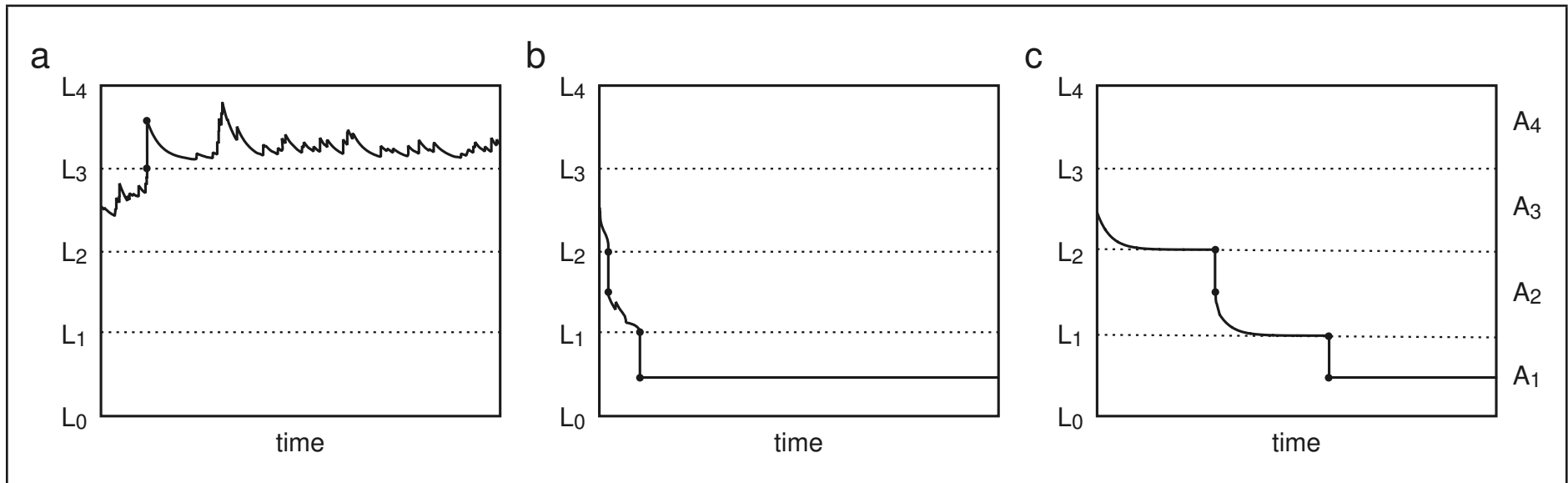
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- size:  $100 \times 100$  2D lattice, torus wrapped
- duration:  $8 \cdot 10^5$  time steps
- 80% excitatory, 20% inhibitory
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- Iglesias, Eriksson, Grize, Tomassini, Villa, *submitted*. "Dynamics of pruning in simulated large-scale spiking neural networks".



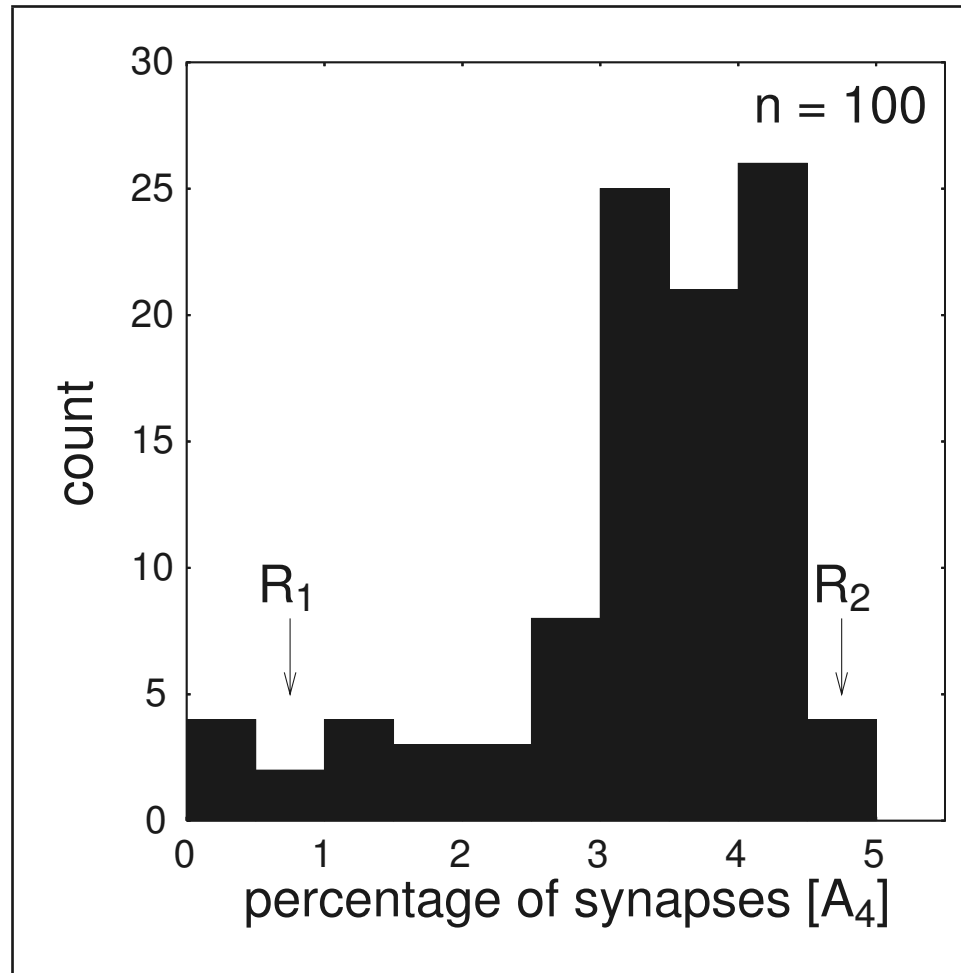
$$L_{ji}(t + 1) = k_{act} \cdot L_{ji}(t) + (S_i(t) \cdot M_j(t)) - (S_j(t) \cdot M_i(t))$$



[board drawing]



Modelled as the correlated input of ca. 50 source excitatory neurons, getting the target neuron to discharge as a Poisson process with a mean firing rate  $\lambda_i$  of 10 spikes/s.



# result 2: no change in preferential direction or length

