

Influence of topology in neural networks dynamics

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We study the influence of topology in simple dynamics with the idea of study a recent and interesting discovery in neural behaviours. This is the appearance of up and down states¹.

We study a modified contact process with a first order phase transition in a hierchical modular network. We obtain surprising preliminary results. The most important one is that the phase transition of the dynamics becomes slower and seems to be a second order phase transition.

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¹ Compte A, Sanchez-Vives MV, McCormick DA, Wang XJ. J Neurophysiol 89: 2707-2725.