

Quasi-synchronous dynamics as an effect of noise and short-term plasticity

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Abstract

We show how a minimal deterministic model of leaky integrate-and-fire network of neurons can exhibit quasi-synchronized states, when short-term plasticity and dilution (quenched network disorder) are taken into account. The robustness of such a dynamical phase with respect to noise is also analyzed, together with the response to different classes of external stimuli.