

# Experiments in noise-enhanced propagation and related phenomena: fault-tolerant behavior and other properties

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We study the propagation of a low-frequency periodic signal through a chain of one-way coupled bistable oscillators, subject to uncorrelated additive noises. The system can be regarded as a mock-up of synaptic transmission between neurons. This work focuses on optimizing input SNR and switching threshold of each oscillator, to achieve maximal coherence (measured as a Hamming distance) between the last oscillator's response and the input signal. At a further stage, we shall focus on the fault-tolerant behavior of the system [Phys. Rev. E **61**, R3287 (2000)].