

Collective dynamics of neural networks in problems of reservoir computing

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Abstract: Reservoir computing is a framework of computational neuroscience and machine learning where it is assumed that information processing occurs in a special high-dimensional network called a reservoir. In this work we consider a reservoir system which contains a network of dynamic neuron-like elements. The system task is to generate a certain type of oscillations at the readout. We uncover what type of dynamic behaviors emerge at a microscopic level of individual reservoir nodes at different stages of training.

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