Global Dynamics of a Cooperative and Supportive Network System with Subnetwork Deactivation

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Abstract: In this paper a cooperative and supportive neural network, in which each neuron of main network is supported by a subnetwork of neurons, is considered. The dynamics of supportive subnetwork are subjected to some deactivation with transfer of data to the main network. Results are obtained on influence of this deactivation on global asymptotic behavior of the solutions. Numerical examples are provided to illustrate the results. The results are compared with known results.

Keywords: *neural networks; cooperative and supportive systems; deactivation; global asymptotic stability;*

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