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论文

变时滞Hopfield神经网络的周期解存在性及其全局指数稳定性

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摘要 利用拓扑度理论中的连续性引理和推广Halanay不等式研究了变时滞的细胞神经网络的周期解的存在性及全局指数稳定性.给出了判别周期解及指数稳定性的代数判据,所得判据易于检验,具有广泛的实用性.同时,改进了已有文献的相关结论,最后通过数值例子说明结论的有效性.

关键词 Hopfield神经网络 变时滞 周期解 全局指数稳定性

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Periodicsolution and global exponential stability of Hopfield neural networks with time-varying delayed

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Abstract By employing the continuous theorem from topology and the extended Halanay's inequality, the existence and global exponential stability of periodic solutions for the Hopfield neural network with time-varying delayed are investigated. The algebraic sufficient conditions of periodicity and global exponential stability are presented. The conditions can be examined easily, so it is of practical usage. In additions, earlier results are extended and improved. A computation example is given to illustrate the proposed method.

Key words Hopfield neural network periodic solution time-varying delayed global exponential stability

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