

Stepanov-like almost automorphic functions on time scales and the application to cellular neural networks with time-varying delays

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Abstract

In this work, we first propose the concept of stepanov-like almost automorphic functions on time scales, and present some properties, including the translation invariance and completeness. Moreover, we also prove the connection between stepanov-like almost automorphic functions on time scales and on \mathbb{R} . Then we establish some existence and uniqueness result of almost automorphic solutions for some linear dynamic equation on time scales. As an application of the above results, we study the existence and global exponential stability of almost automorphic solutions for a class of cellular neural networks with time-varying delays on time scales.

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