

1116-39-669

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We study almost automorphic solutions of the discrete delayed neutral dynamic system

$$x(t+1) = A(t)x(t) + \Delta Q(t, x(t-g(t))) + G(t, x(t), x(t-g(t)))$$

by means of discrete variant of exponential dichotomy and fixed point theory. We prove uniqueness of the projector of discrete exponential dichotomy and obtain some limit results leading to sufficient conditions for the existence of almost automorphic solutions of the neutral system. Unlike the existing literature we prove our existence results without assuming boundedness of inverse matrix $A(t)^{-1}$. Therefore, we significantly improve the existence results in the literature. We give two examples to illustrate effectiveness of our results. Finally, we also provide an existence result for almost periodic solutions of the system. (Received September 10, 2015)