

1035-47-969

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We introduce various generalized concepts of almost automorphy including Stepanov-like almost automorphy and pseudo almost automorphy. As an example of their applications, we consider the existence and uniqueness of an almost automorphic solution to the nonautonomous semilinear evolution equations:

$$u'(t) = A(t)u(t) + f(t, u(t)), \quad t \in \mathbb{R},$$

where  $A(t)$ ,  $t \in \mathbb{R}$ , generates an exponentially stable evolution family  $\{U(t, s)\}$  and  $f : \mathbb{R} \times X \rightarrow X$  is  $S^p$ -almost automorphic for  $p > 1$ . (Received September 17, 2007)