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**Stepanov-like almost automorphic solutions for stochastic differential equations with Lévy noise.** (English) Zbl 1390.60240

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Summary: In this paper, we introduce a new concept of Poisson Stepanov-like almost automorphy (or Poisson  $S^2$ -almost automorphy). Under some suitable conditions on the coefficients, we establish the existence and uniqueness of Stepanov-like almost automorphic mild solution to a class of semilinear stochastic differential equations with infinite dimensional Lévy noise. We further discuss the global asymptotic stability of these solution. Finally, we give an example to illustrate the theoretical results obtained in this paper.

**MSC:**

**60H15** Stochastic partial differential equations (aspects of stochastic analysis)

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**60G15** Gaussian processes

**60H05** Stochastic integrals

**Keywords:**

asymptotic stability; Lévy noise; Stepanov-like almost automorphy; stochastic differential equations

**Full Text:** [DOI](#)

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