
Zbl 0915.34051**Hatvani, László; Stachó, László****On small solutions second-order differential equations with random coefficients.** (English)

Arch. Math., Brno 34, No.1, 119-126 (1998).

<http://www.emis.de/journals/AM/>

The authors pose the question: For arbitrarily fixed initial data, what is the probability, that the corresponding solution to the equation

$$x'' + a(t)x = 0 \quad t \geq 0,$$

vanishes at $+\infty$? The answer to this problem is given in the case when a is a step function. More precisely, when $a(t) = a_k$ for $t_{k-1} \leq t < t_k$, $k = 1, 2, \dots$, $(a_k)_{k=1}^{+\infty}$ is a nondecreasing sequence of positive numbers and $t_k - t_{k-1}$, $k = 1, 2, \dots$ are independent random variables uniformly distributed on interval $[0, 1]$.

*A.Lomtatidze (Brno)**Keywords* : asymptotic stability; energy method; small solution*Classification* :***34F05** ODE with randomness**34D20** Lyapunov stability of ODE**60K40** Physical appl. of random processes