THE PROBABILISTIC STABILITY FOR A FUNCTIONAL NONLINEAR EQUATION IN A SINGLE VARIABLE

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Abstract. We use the fixed point method to prove the probabilistic Hyers–Ulam and generalized Hyers–Ulam–Rassias stability for the nonlinear equation \( f(x) = \Phi(x, f(\eta(x))) \) where the unknown is a mapping \( f \) from a nonempty set \( S \) to a probabilistic metric space \((X, F, T_M)\) and \( \Phi : S \times X \to X, \eta : S \to X \) are two given functions.


Keywords and phrases: Functional equation, fixed points, Hyers-Ulam stability, probabilistic metric space.

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