ON THE STABILITY OF METRIC SEMIGROUP HOMOMORPHISMS

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Abstract. In this paper, we investigate the stability of the homomorphism equation $f(x \circ_1 y) = f(x) \circ_2 f(y)$ between semigroups $(G_1, \circ_1)$ and $(G_2, \circ_2)$, where the binary operation $\circ_i$ is square-symmetric on the set $G_i$ for $i = 1, 2$. Our results generalize the classical theorem of Hyers concerning the stability of the Cauchy additive equation.


Keywords and phrases: Functional equation, Hyers-Ulam-stability, metric semigroup homomorphism, fixed point.

REFERENCES