GENERALIZED HYERS–ULAM–RASSIAS STABILITY OF
FUNCTIONAL INEQUALITIES AND FUNCTIONAL EQUATIONS

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Abstract. In this paper, the definitions of the stability of functional inequalities and functional equations are given. Also we prove the generalized Hyers-Ulam-Rassias stability of the following functional inequality and functional equation

\[ \|f(x) + f(y) + 2f(z)\| \leq 2f\left(\frac{x+y}{2} + z\right), \]

\[ f(x) + f(y) + 2f(z) = 2f\left(\frac{x+y}{2} + z\right), \]

in the spirit of the Hyers’ direct method for approximately additive mappings.


Keywords and phrases: Functional inequality, functional equation, additivity, stability, generalized Hyers-Ulam-Rassias stability.

REFERENCES