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GENERALIZED FUZZY STABILITY OF A NEW GENERALIZED QUINTIC FUNCTIONAL EQUATION

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Abstract

In this paper, we investigate the generalized Hyers-Ulam-Rassias stability of generalized Quintic functional equation

$$\begin{aligned} 12[f(x+ny)+f(x-ny)] &= n^2(n^2-1)[f(x+2y)+f(x-2y)] \\ &\quad +4n^2(4-n^2)[f(x+y)+f(x-y)]+6[n^4-5n^2+4]f(x) \\ &\quad +[f(ny)-n^5f(y)] \end{aligned}$$

in fuzzy normed space for any real numbers n with $n \neq 0$.

Key Words : *Quintic functional equation, Banach spaces, Generalized Hyers-Ulam-Rassias stability, Fuzzy stability.*