International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 4 No. III (August, 2010), pp. 33-46

SOLUTION AND STABILITY OF ARUN-ADDITIVE FUNCTIONAL EQUATIONS

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Abstract

In this paper, the author investigate the general solution and generalized Hyers-Ulam-Aoki-Rassias stability of Arun-additive functional equation of the form

$$f(2x \pm y \pm z) = f(x \pm y) + f(x \pm z). \tag{0.1}$$

The above equation (0.1) is modified and its Hyers-Ulam-Aoki-Rassias stability for the following additive functional equation

$$f(2x \pm y \pm z) = 2f(x) \pm f(y) \pm f(z) \tag{0.2}$$

for all $x, y, z \in X$ with $x \perp y, y \perp z$ and $z \perp x$ is discussed in orthogonality space in the sense of Rätz.

KeyWords and Phrases: Additive functional equation, Generalized Hyers-Ulam-Rassias stability, Orthogonality space.

2000 Mathematics Subject Classification : 39B52, 39B82, 47H10.