

## STABILITY OF SYSTEM OF ADDITIVE FUNCTIONAL EQUATIONS

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### Abstract

In this paper, we study the stability of a system of additive functional equations of the form

$$f(kx + y) + f(kx - y) = 2kf(x)$$

$$f((k - 1)x + y) + f((k - 1)x - y) = 2(k - 1)f(x)$$

$$f(kx + y) - f(kx - y) = 2f(y)$$

$$f((k - 1)x + y) - f((k - 1)x - y) = 2f(y)$$

Where  $k$  is a positive integer such that  $k$  is not equal to 0; 1; 2. The above system of functional equations is solved by using Matrix Method.

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**Key Words and Phrases:** Additive functional equations, Ulam-Hyers stability.

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