

## STABILITY OF SYSTEM OF ADDITIVE FUNCTIONAL EQUATIONS OF THREE VARIABLES IN NON-ARCHIMEDEAN SPACES

K. RAVI AND R. KODANDAN

### Abstract

In this paper, we study the stability of a system of additive functional equations of the form  $f(kx + y + z) + f(kx - y + z) = 2kf(x) + 2f(z)$   
 $f((k - 1)x + y + z) + f((k - 1)x + y - z) = 2(k - 1)f(x) + 2f(y)$   
 $f(kx + y + z) - f(kx - y + z) = 2f(y)$   
 $f((k - 1)x + y + z) - f((k - 1)x + y - z) = 2f(z)$  in non-Archimedean space, where  $k$  is a positive integer such that  $k \neq 0, 1, 2$ . The above system of functional equations are solved by using Matrix Method.

---

Key Words and Phrases : Additive functional equation, Hyers-Ulam -Rassias stability.

2000 Mathematics Subject Classification : 39B52, 39B72, 39B82.