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**Functional inequalities in non-Archimedean Banach spaces.** (English) Zbl 1203.39015  
Appl. Math. Lett. 23, No. 10, 1238-1242 (2010).

The authors show that if  $f$  is a function between non-Archimedean spaces satisfying the functional inequality  $\|f(x) + f(y) + f(z)\| \leq \|kf((x + y + z)/k)\|$ , where  $|k| < |3|$ , then  $f$  is additive. They also prove the generalized Hyers-Ulam stability of the functional inequality above in non-Archimedean normed spaces.

Reviewer's Comment: The authors assume that the domain of  $f$  is non-Archimedean, but it seems that they do not need this assumption.

Reviewer: [Mohammad Sal Moslehian \(Mashhad\)](#)

**MSC:**

- [39B82](#) Stability, separation, extension, and related topics for functional equations Cited in **29** Documents
- [46S10](#) Functional analysis over fields other than  $\mathbb{R}$  or  $\mathbb{C}$  or the quaternions; non-Archimedean functional analysis
- [39B52](#) Functional equations for functions with more general domains and/or ranges
- [39B62](#) Functional inequalities, including subadditivity, convexity, etc.

**Keywords:**

non-Archimedean Banach space; generalized Hyers-Ulam stability; Jordan-von Neumann functional equation; functional inequality

**Full Text:** [DOI](#)

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