

ON AN ABSTRACT VERSION OF A FUNCTIONAL INEQUALITY

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Abstract. The purpose of the present paper is to provide a joint generalization of some previously obtained results connected with functional inequalities, stability of functional equations and stability of functional inequalities.

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REFERENCES

- [1] J. ACZÉL, J. DHOMBRES, *Functional equations in several variables*, Encyclopedia Math. Appl. **31**, Cambridge Univ. Press, Cambridge, 1989.
- [2] W. FECHNER, *On functions with the Cauchy difference bounded by a functional*, Bull. Polish Acad. Sci. Math. **52** (2004), 265–271.
- [3] W. FECHNER, *On functions with the Cauchy difference bounded by a functional. Part II*, Int. J. Math. Sci. **2005:12** (2005), 1889–1898.
- [4] W. FECHNER, *On the Hyers-Ulam stability of functional equations connected with additive and quadratic mappings*, J. Math. Anal. Appl. **322/2** (2006), 774–786.
- [5] E. HEWITT-K. ROSS, *Abstract harmonic analysis. Vol I: Structure of topological groups. Integration theory, group representations.*, Die Grundlehren der Mathematischen Wissenschaften, Bd. 115, Academic Press, Inc. Publishers, New York, Springer-Verlag, Berlin-Göttingen-Heidelberg, 1963.
- [6] D. H. HYERS, *On the stability of the linear functional equation*, Proc. Nat. Acad. Sci. U.S.A. **27** (1941), 222–224.