

Banach J. Math. Anal. 1 (2007), no. 1, 56–65

BANACH JOURNAL OF MATHEMATICAL ANALYSIS ISSN: 1735-8787 (electronic) http://www.math-analysis.org

SOME REMARKS ON STABILITY AND SOLVABILITY OF LINEAR FUNCTIONAL EQUATIONS

BORIS PANEAH¹

To my friend Professor Themistocles M. Rassias with the author's compliments and very good wishes

Submitted by T. Riedel

ABSTRACT. In the present work we continue studying the solvability of the linear functional equations $\sum_{j=1}^{N} c_j F \circ a_j = H$ and also the strong and weak stability of the corresponding operator \mathcal{P} (see the definition below). By analogy with the Cauchy and Jensen operators once more model operator $\widehat{\mathcal{P}}$ is considered, and the stability problems as well as some solvability problems for $\widehat{\mathcal{P}}$ are studied. Several unsolved problem of a general character are formulated.

¹ DEPARTMENT OF MATHEMATICS, TECHNION, 32000 HAIFA, ISRAEL. *E-mail address*: peter@tx.technion.ac.il

Date: Received: 4 April 2007; Accepted: 19 October 2007.

2000 Mathematics Subject Classification. Primary 39B22; Secondary 39B52.

 $Key\ words\ and\ phrases.$ strong, weak and Ulam stability, Cauchy operator, Jensen operator, à priori estimate.