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Hyers-Ulam stability of a generalized additive set-valued functional equation. (English)

Zbl 1282.39030

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Summary: We define a generalized additive set-valued functional equation, which is related to the following generalized additive functional equation:

$$f(x_1 + \cdots + x_l) = (l - 1)f\left(\frac{x_1 + \cdots + x_{l-1}}{l - 1}\right) + f(x_l)$$

for a fixed integer l with $l > 1$, and prove the Hyers-Ulam stability of the generalized additive set-valued functional equation.

MSC:

39B82 Stability, separation, extension, and related topics for functional equations

Cited in 4 Documents

39B55 Orthogonal additivity and other conditional functional equations

Keywords:

Hyers-Ulam stability; generalized additive set-valued functional equation; closed set; convex set; cone

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