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**Local stability of the additive functional equation and its applications.** (English)

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The Hyers-Ulam stability of the additive functional equation for a large class of unbounded domains in Banach space is proved. Loosely speaking, it is proved that if a mapping  $f$  satisfies the additivity property approximately then there exists unique approximating additive mapping for  $f$ . The result is applied to investigation of the stability of Jensen's functional equation.

Reviewer: [Claudi Alsina \(Barcelona\)](#)

**MSC:**

- [39B82](#) Stability, separation, extension, and related topics for functional equations
- [39B52](#) Functional equations for functions with more general domains and/or ranges
- [39B55](#) Orthogonal additivity and other conditional functional equations

Cited in **1** Document

**Keywords:**

local stability; additive functional equation; Hyers-Ulam stability; Banach space; additive mapping; Jensen's functional equation

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