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Almost derivations on C^* -ternary rings. (English) Zbl 1132.39026
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The author presents generalized stability results, in the spirit of *P. Găvruta* [J. Math. Anal. Appl. 184, No. 3, 431–436 (1994; Zbl 0818.46043)], for derivations in C^* -ternary rings. In particular, the following result is obtained: Let \mathcal{A} denote a C^* -ternary ring, $\varepsilon > 0$, $0 \leq p < 1$, and suppose that $f : \mathcal{A} \rightarrow \mathcal{A}$ fulfils $f(0) = 0$ and

$$\begin{aligned} \|f(\mu x + \mu y + [u v w]) - \mu f(x) - \mu f(y) - [f(u) v w] - [u f(v) w] - [u v f(w)]\| \\ \leq \varepsilon(\|x\|^p + \|y\|^p + \|u\|^p + \|v\|^p + \|w\|^p) \end{aligned}$$

for every $x, y, u, v, w \in \mathcal{A}$ and every complex number μ with $|\mu| = 1$. Then f is a derivation.

Reviewer: [Zoltán Boros \(Debrecen\)](#)

MSC:

- 39B82** Stability, separation, extension, and related topics for functional equations
- 39B52** Functional equations for functions with more general domains and/or ranges
- 46L05** General theory of C^* -algebras

Cited in **4** Reviews
Cited in **14** Documents

Keywords:

generalized Hyers-Ulam-Aoki-Rassias stability; C^* -ternary ring; derivation; Cauchy functional equation

Full Text: [Euclid](#)