

**Popa, Dorian**

**A property of a functional inclusion connected with Hyers-Ulam stability.** (English)

Zbl 1189.39032

J. Math. Inequal. 3, No. 4, 591-598 (2009).

The author uses some ideas of *D. Popa* [Math. Inequal. Appl. 7, No. 3, 419–428 (2004; Zbl 1058.39026)] and *Z. Páles* [Publ. Math. 58, No. 4, 651–666 (2001; Zbl 0980.39022)] to prove that if  $(X, *)$  is a square-symmetric divisible groupoid and  $(Y, \diamond, d)$  is a complete metric bisymmetric divisible groupoid and  $F : X \rightarrow \mathcal{P}_0(Y)$  is a set valued map with the property  $F(x) \diamond F(Y) \subseteq F(x * y)$ , then under certain conditions there exists a unique selection  $f : X \rightarrow Y$  of  $F$  such that  $f(x) \diamond f(y) = f(x * y)$ .

Reviewer: [Maryam Amyari \(Mashhad\)](#)

**MSC:**

- [39B82](#) Stability, separation, extension, and related topics for functional equations
- [39B52](#) Functional equations for functions with more general domains and/or ranges
- [20L05](#) Groupoids (i.e. small categories in which all morphisms are isomorphisms)

Cited in **10** Documents

**Keywords:**

Hyers-Ulam stability; square-symmetric groupoid; functional inclusion

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