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FE-2	<b>On The Hyers-Ulam-Rassias Stability Of The Generalized Quadratic Equations</b>
<p>Let <math>G</math> be a groupoid and let <math>E</math> a topological vector space. <math>\varphi: G \rightarrow E</math> satisfy(1). A set <math>G</math> is called a power-associative group if <math>G</math> is a nonempty set with a binary relation <math>x*y \in G</math> such that the left powers satisfy <math>x^{n+m} = x^n * x^m</math> for all <math>m \in \mathbb{N}</math> and all <math>x \in G</math>. Left powers are defined by <math>x^1 = x</math>, <math>x^{m+1} = x * x^m</math>, <math>m \in \mathbb{N}</math>.</p> <p>THEOREM. IF <math>f: G \rightarrow E</math> satisfies</p> $f(x*y*z) + f(x) + f(y) + f(z) - f(x*y) - f(y*z) - f(y*z) = \varphi(x, y, z) \quad (\forall x, y, z \in G),$ <p>and</p> <p>(1) <math>f((x*y)^{2^n}) = f(x^{2^n} * y^{2^n}) \quad (\forall x, y \in G \text{ and } n \in \mathbb{N})</math></p> <p>then</p> <p>(T.1.2) <math>\lim_{n \rightarrow \infty} \frac{\varphi(x^{2^n}, y^{2^n})}{4^n} = \theta \quad (\forall x, y \in G)</math></p> <p>(T.1.3) <math>\Phi(x, x) := \lim_{n \rightarrow \infty} \sum_{k=0}^n \frac{1}{4^{k+1}} \varphi(x^{2^k}, x^{2^k}) \quad (\forall x \in G)</math></p> <p>if and only if the limit <math>Q(x) = \lim_{n \rightarrow \infty} \frac{f(x^{2^n})}{4^{n+1}}</math> exists for any <math>x \in G</math>, and <math>Q</math> is quadratic.</p>	

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FE-3	<b>Partitioned functional equations and approximate algebra homomorphisms</b>
<p>We prove the generalized Hyers-Ulam-Rassias stability of a partitioned functional equation. It is applied to show the stability of algebra homomorphisms between Banach algebras associated with partitioned functional equations in Banach algebras.</p>	