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STABILITY OF A FUNCTIONAL EQUATION COMING FROM THE CHARACTERIZATION OF THE ABSOLUTE VALUE OF ADDITIVE FUNCTIONS

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ABSTRACT. In the present paper, we prove the stability of the functional equation

$$\max\{f((x\circ y)\circ y), f(x)\} = f(x\circ y) + f(y)$$

for real valued functions defined on a square-symmetric groupoid with a left unit element. As a consequence, we obtain the known result about the stability of the equation

$$\max\{f(x+y), f(x-y)\} = f(x) + f(y)$$

for real valued functions defined on an abelian group.

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