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We study the solutions $f : G \rightarrow H$ of the quadratic functional equation on G , where G and H are groups, H abelian. We show that any solution f is a function on the quotient group $[G, [G, G]]$. By help of this we find sufficient conditions on G for all solutions to satisfy Kannappan's condition. We use this to derive explicit formulas for the solutions on various groups like, e.g., the $(ax + b)$ -group and $GL(n, \mathbb{R})$.

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