Some Integral Inequalities of Hermite-Hadamard Type on Time Scale and Their Applications

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Abstract : In this paper, the authors establish an integral identity using delta differentiable functions. By applying this identity, some new results via a general class of convex functions with respect to two nonnegative functions on a time scale are given. Also, for suitable choices of nonnegative functions, some special cases are deduced. Finally, in order to illustrate the efficiency of our main results, some applications to special means are obtained as well. We hope that current work using our idea and technique will attract the attention of researchers working in mathematical analysis, mathematical inequalities, numerical analysis, special functions, fractional calculus, quantum mechanics, quantum calculus, physics, probability and statistics, differential and difference equations, optimization theory, and other related fields in pure and applied sciences.

Keywords : convex functions, Hermite-Hadamard inequality, special means, time scale
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