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Refinement of continuous forms of classical inequalities. (English) Zbl 07382395

Summary: In this article we give refinements of the continuous forms of some classical inequalities i.e. of the inequalities which involve infinitely many functions instead of finitely many. We present new general results for such inequalities of Hölder-type and of Minkowski-type as well as for their reverses known as Popoviciu- and Bellman-type inequalities. Properties for related functionals are also established. As particular cases of these results we derive both well-known and new refinements of the corresponding classical inequalities for integrals and sums.

MSC:
26D15 Inequalities for sums, series and integrals
26D10 Inequalities involving derivatives and differential and integral operators
39B62 Functional inequalities, including subadditivity, convexity, etc.
46E27 Spaces of measures

Keywords:
inequalities; Hölder-type inequality; Minkowski-type inequality; Popoviciu-type inequality; Bellman-type inequality; continuous forms; measure spaces; related functionals

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