

Generalizations of Some Hermite-Hadamard-Type Inequalities

by

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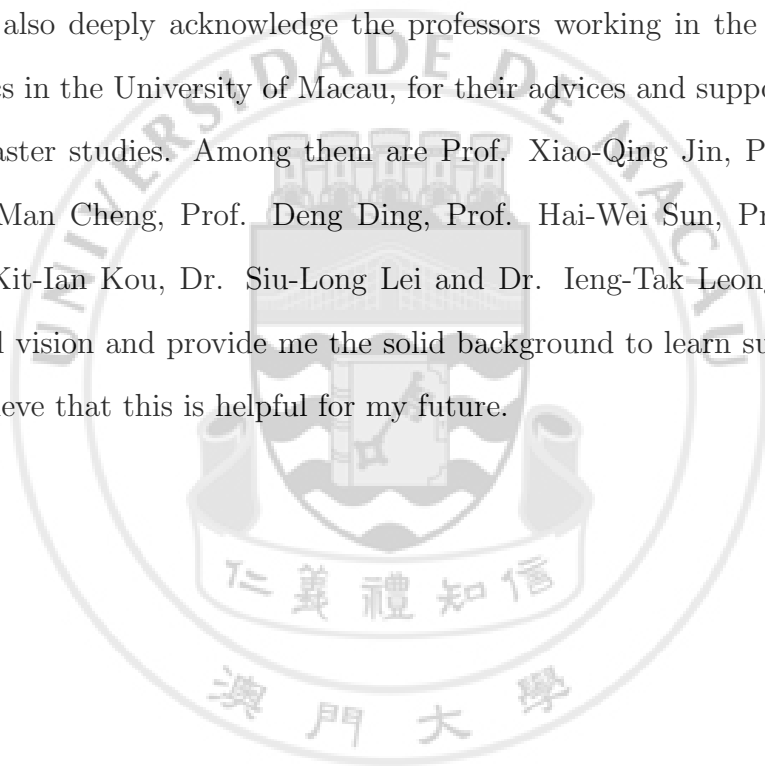
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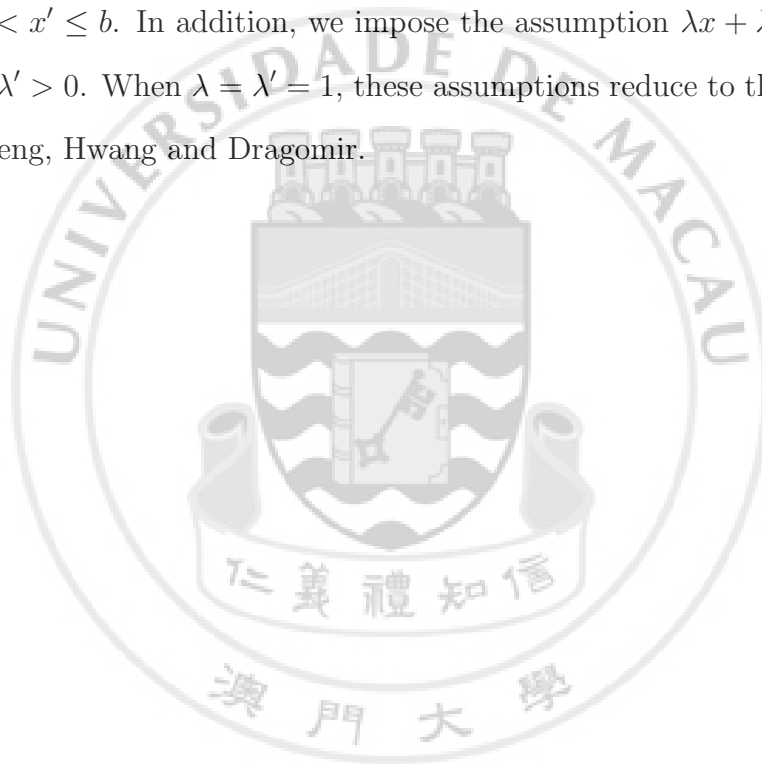
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ABSTRACT

This thesis is closely related to a result of K. L. Tseng, S. R. Hwang, and S. S. Dragomir which is published recently [Comput. Math. Appl. 62 (2011), 401–418]. In that article, by considering four points x, y, y', x' in an interval $[a, b]$ such that $x < y \leq y' < x'$ and $x + x' = y + y'$, some new Hermite-Hadamard-type inequalities were proved.

We give some extensions of these new inequalities from a weighted viewpoint. Throughout this thesis, we suppose that f is a convex function on $[a, b]$ and $a \leq x < y \leq y' < x' \leq b$. In addition, we impose the assumption $\lambda x + \lambda' x' = \lambda y + \lambda' y'$ for some $\lambda, \lambda' > 0$. When $\lambda = \lambda' = 1$, these assumptions reduce to those imposed in paper of Tseng, Hwang and Dragomir.



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DECLARATION

The author declares that this thesis represents his own based on the ideas suggested by Dr. Seak-Weng Vong, the author's supervisor. All the work is done under the supervision of Dr. Vong during the period 2007–2012 for the degree of Master of Science in Mathematics at University of Macau. The results in this thesis, unless otherwise stated or indicated, have not been previously included in any thesis, dissertation or report submitted to any institution for a degree, diploma or other qualification, or for publication by the author, and to the author's knowledge, by anyone else.

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