SOME MULTI–DIMENSIONAL OPIAL–TYPE
INEQUALITIES ON TIME SCALES

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Abstract. In this paper, we not only give some time scale extensions of the results given in [J. Math. Anal. Appl. 126 (1987) 85–89] by Pachpatte, but also obtain some new results involving higher-order delta-derivatives by means of the generalized Taylor's formula on arbitrary time scales. We also apply the useful Muirhead's inequality to obtain interesting new results. Most of our results are new in particular time scales.

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