

## LANGENHOP'S INEQUALITY AND APPLICATIONS FOR DYNAMIC EQUATIONS\*

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**Abstract.** A Langenhop-type inequality is given for dynamic equations on time scales. This result is further employed to obtain lower bounds for solutions of certain dynamic equations. As an application, usage of the derived Langenhop's inequality in determining the oscillatory behavior of a damped second order delay dynamic equation is illustrated. The results obtained are important in the qualitative sense.

**Key words.** Langenhop inequality, time scale, lower bounds, oscillation

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