Nonlinear Dynamics and Systems Theory, **9** (3) (2009) 219–238

Dominant and Recessive Solutions of Self-Adjoint Matrix Systems on Time Scales

Douglas R. Anderson *

Department of Mathematics & Computer Science, Concordia College, Moorhead, MN 56562 USA

Received: May 31, 2008; Revised: June 17, 2008

Abstract: In this study, linear second-order self-adjoint delta-nabla matrix systems on time scales are considered with the motivation of extending the analysis of dominant and recessive solutions from the differential and discrete cases to any arbitrary dynamic equations on time scales. These results emphasize the case when the system is non-oscillatory.

Keywords: *time scales; self-adjoint; matrix equations; second-order; non-oscillation; linear.*

Mathematics Subject Classification (2000): 39A11, 34C10.