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John M Davis* (John_M_Davis@baylor.edu), Department of Mathematics, Baylor University,
Waco, TX 76798. *Algebraic and Dynamic Lyapunov Equations on Time Scales*. Preliminary report.

We develop the time scale generalizations of the algebraic Lyapunov equation (which unifies the continuous time ALE and discrete time ALE) as well as the dynamic Lyapunov equation (which unifies the continuous time DLE and discrete time DLE). We explore how each of these equations plays an important role in stability arguments based Lyapunov's Second Method. (Received August 25, 2009)