1051-93-221   **Alice Alexander Ramos*** (`alice.ramos@bethelcollege.edu`), Bethel College, Dept. of Mathematics, 1001 Bethel Circle, Mishawaka, IN 46545. *Stability Analysis and Design of Dynamic Switched Systems Evolving on Time Scales.* Preliminary report.

We extend Lyapunov's Second (Direct) Method to the stability analysis of switched systems evolving on dynamic domains by developing and implementing a generalized common Lyapunov function approach for these systems. This leads to the formulation of two very different but closely related problems in analysis and design of dynamic switched systems and has applications to problems in bandwidth optimization, adaptive control, and μ-dynamics. (Received August 25, 2009)