1077-74-2143 **Charles Yves Daly*** (cdaly4@gmu.edu). *Stability Analysis of Plate Deformation Equations Derived using the Hamiltonian Principle.*

Airplanes, helicopters, and the majority air-crafts rely heavily on wings, which can be modeled by very thin malleable plates. Through the use of the Kirchoff-Love plate theory model we intend to derive the necessary and sufficient conditions for stability of a uniformly dense three dimensional plate. Working with this model, the Green's stress and strain tensor, and the Hamiltonian Principle we derived a set of differential equations whose stability will be examined in thorough detail through the use of an energy norm and stability analysis. (Received September 21, 2011)