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Youssef Naim Raffoul* (youssef.raffoul@notes.udayton.edu), Department of Mathematics,
300 College Park, Dayton, OH 45469-2316. *Exponential Analysis of Solutions of Differential
Equations with Unbounded Terms.*

Non-negative definite Lyapunov functions are employed to obtain sufficient conditions that guarantee boundedness of solutions of a nonlinear differential system. Also, sufficient conditions will be given to insure that the zero solution is exponentially and asymptotically stable. Our theorems will make significant contribution to the theory of differential equations when dealing with equations that might contain unbounded terms. The theory is illustrated with several examples. (Received August 13, 2008)