1068-41-281 **'Kale Oyedeji*** (koyedeji@morehouse.edu), Department of Physics, 830 Westview Dr., SW, Atlanta, GA 30314-3773, and **Ronald E. Mickens** (rmickens@cau.edu), Department of Physics, 237 Brawley Dr., SW, 30314 Atlanta, GA, Gabon. *Preliminary Results on the Solutions of x+xxB3 =-2ϵxϵ.* Preliminary report.

<K1.1/>

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We study the properties of a so-called "truly" nonlinear oscillator differential equation subject to initial conditions x(0)=A, x(0)=0. Using an energy method, we show that all solutions decrease to zero as $\epsilon - \infty$. Next, a method of averaging is applied and an explicit approximation is calculated for the damped, oscillatory solutions. Finally, a finite difference scheme is constructed and then used to determine numerical solutions to our nonlinear differential equation. We find that there is good qualitative agreement between the numerical and analytical approximate solutions. (Received January 19, 2011)