1014-39-120 **Ronald E Mickens*** (rohrs@math.gatech.edu), Clark Atlanta University, Box 172, Physics Department, Atlanta, GA 30314. *A Discrete Model for the Spread of Periodic Diseases.*

We give preliminary results on the dynamics of a discrete model for the spread of periodic diseases [1, 2]. The essential features of the dynamics are captured by means of three coupled, first-order difference equations. The model is a generalization of one given by Anderson and May to include a periodic infection coefficient, two types of vaccination strategies (standard and pulse vaccination), and the allowance of death to occur in the population of the removed class. The essential issue to be resolved by this model is whether a pulse vaccination program can eradicate a periodic disease. The possible dynamics of the system is investigated (in this preliminary report) by means of an extensive set of numerical simulations.

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[1] R. Anderson and R. May, New Scientist, November 18 (1982), 410-415.

[2] R. E. Mickens, Journal of Difference Equations and Applications 9, 541-551 (2003). (Received July 29, 2005)