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RESEARCH INTERESTS:

- Numerical Solutions of Differential Equations
- Stochastic Oscillators
- Orbital Mechanics

CURRENT RESEARCH:

In the literature, a stochastic oscillator is described as being the solution to an ordinary differential equation with a forcing function in the form of white noise. One popular form of a stochastic oscillator is

$$\ddot{x} + k(x, \dot{x}, t) = h w(t)$$

where  $k(x, \dot{x}, t)$  is a real function and  $w(t)$  represents white noise. My current research involves working with a colleague to develop and test numerical methods for solving this stochastic differential equation. Work has already been done on the solution of the equation when  $k(x, \dot{x}, t)$  is a scalar. This is referred to as a linear model. Our objective is to see if the work can be extended to the case where  $k$  is a non-constant real function.

SELECTED PUBLICATIONS:

- *Investigation of the Feasibility of an Analytic Method of Accounting for the Effects of Atmospheric Drag on Satellite Motion*, Nasa Research Reports, Cr-179215, 1987.
- *Periodic Elliptic Motions in a Planar Restricted  $(N + 1)$ -Body Problem*, *Celestial Mechanics* **16** (1977), 179–189 (with R.F. Arenstorf).