1056-35-1260   **Franz William Hamilton*** (`fhamilto@gmu.edu`), 10285 Winged Elm Circle, Manassas, VA 20110. *Parameter Estimation in a System of Differential Equations.*

Given a set of data points and a prescribed system of differential equations used for modeling an event, the objective is predicting future values utilizing these differential equations. However, these differential equations often have unknown parameters. The challenge becomes figuring out the value the parameter(s) should be so that the differential equations reflect the data points, allowing future predictions to be made. We explore this concept using the shooting method along with the Gauss-Newton method. (Received September 21, 2009)