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Paul R. Bouthellier* (pbouthe@pitt.edu), 504 East Main Street, Titusville, PA 16354. *The Effect of Wind on the Flights of Golf Balls and Baseballs.*

The problem that we shall examine in this talk is that of the effect of wind on the trajectory of objects such as golf balls and baseballs. We will analyze their flight trajectories, their maximum heights, and distance traveled under different wind conditions where the wind shall be implemented as a vector field in three-dimensional space. Using the mass and cross-sectional areas of the objects, the solutions of the trajectories of the objects under the effect of wind are a set of differential equations whose solution will be approximated by numerical methods. These solutions will then be rendered in 3D graphics packages allowing students to study the effects of wind on the flight paths of objects from any position and orientation in three-dimensional space. (Received August 17, 2014)