

This program analyzes projectile motion in a resistive medium. The resistive force is assumed to be proportional to the velocity ( $R = -bv$ ). The program solves most types of projectile motion problems. Choose from 3 different systems of units. The form of the equations used assumes that the initial position of the projectile is at the origin of the coordinate system, that is,  $x_0=0$  and  $y_0=0$ , and that the initial time  $t_0=0$ . The values of any 3 of the 4 quantities  $\{v_0, \mathbf{q}_0, x, y\}$  must be entered, as well as a resistance parameter, then the program chooses the proper equations and solves for the remaining unknown quantities from the list  $\{v_0, \mathbf{q}_0, x, y, t, v, v_x, v_y, \mathbf{q}\}$ . Only solutions with  $t \geq 0$  and  $x \geq 0$  are given. The solutions are copied to the home screen. The path of the projectile and the path in vacuum are graphed for comparison. After exiting the program, the graphs can be examined using the features of the calculator, and input values can be changed.

For projectiles in vacuum, see Projtle().

Copyto\_h(), by Samuel Stearley, is used in the main program. Place both programs in the same folder, then run Projdrag().