5. Virtual Mass (10 points) — *Jaan Kalda.* When a body moves in a fluid, the effective inertial mass appears to be larger than the mass of the body itself, because to accelerate the body some of the fluid needs to be accelerated as well. This increase is called added mass or virtual mass. Measure the amount of virtual mass m_v that is added to the ball as it moves through water. The diameter of the ball is $d = 72.0\,\text{mm}$. You don't have to calculate the uncertainty of your results, however the accuracy of your methods and results is important and will be graded.

Equipment: Ball fixed to a spring, stand, stopwatch, ruler, container with water.