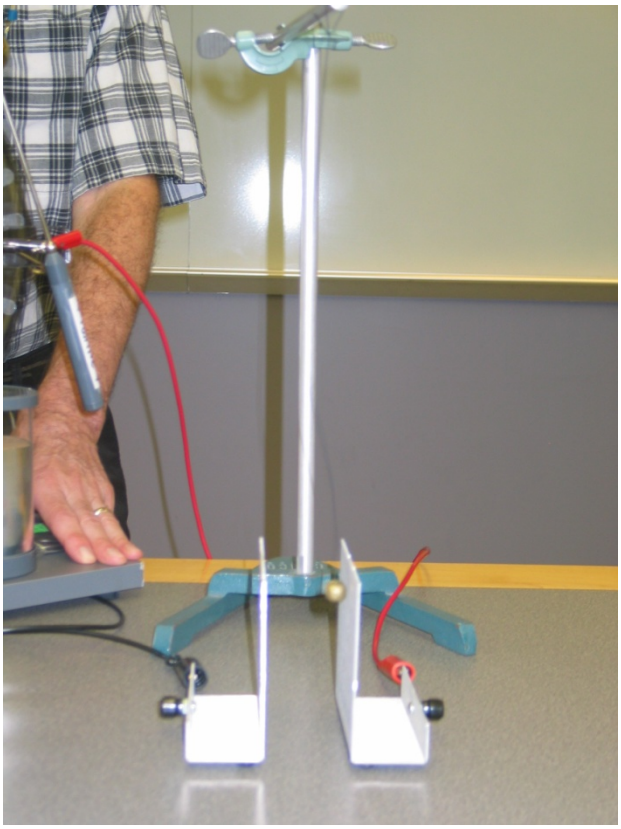
Electrostatic “Ping-Pong” (WM)



Purpose: To show that a conductive ball hanging between two charged plates is repelled by each plate upon contact, resulting in a back-and-forth “ping-pong” effect.

Location: rm. 146; capacitor plates, ring stand with ball on string, and Wimshurst machine, shelf L2

Set up the ring stand with a hanging, metal-coated pith ball as shown. Attach the Wimshurst terminals to the two capacitor plates and turn the crank. At first the ball may move to the nearer plate by inductive attraction. Otherwise, start the process with a push. As the ball contacts each plate it acquires charge from it and is instantly repelled by the electric field between the plates.

For a more dramatic visual effect try the Volta’s Hail Storm demo.

NOTE: <u>Do not operate the Wimshust any longer than necessary, as the bearings may seize and prevent cranking.</u>