

Question #186

Shown below in the photograph at the left and in the detail at the right is a device called a *Faraday cage*. In the detail photograph three suspensions of aluminum foil chunks on pieces of string can be seen. Each of the suspensions include a string passing over the top of the cylindrical screen with small rectangular chunks of aluminum foil, a few centimeters in size, attached to the ends of the string. Note that one end of each string is *outside the cylinder* and one end of the string is *inside the cylinder*.



The question this week involves what the foils do when the van de Graaff generator is turned on, putting large negative charge onto the cylindrical screen and perhaps by conduction onto the foils. In particular, when the cylinder is charged, which, if any, of the aluminum foils will move away from the cylinder, either inward or outward.

When the cylinder is charged:

- (a) only the inner foils will move away from the cylinder.
- (b) only the outer foils will move away from the cylinder.
- (c) both the inner and the outer foils will move away from the cylinder.
- (d) neither the inner nor the outer foils will move away from the cylinder.

Click here for [Answer #186](#) after May 3, 2004.

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For questions and comments regarding the *Question of the Week* contact

[Dr. Richard E. Berg](#) by e-mail or using phone number or regular mail address given on the [Lecture-Demonstration Home Page](#).