

PHY505 - Classical Electrodynamics

Homework No. 8

Due: Wednesday, November 6, 2002

1. Jackson 4.13 (Neglect any change in the level of the dielectric in the tank as it rises in the cylinder.)
2. A conducting spherical shell of mass M and radius R floats in the same liquid dielectric as described in the problem above. If a fraction $f_0 < \frac{1}{2}$ of the sphere's volume is immersed while the sphere is uncharged, find the charge Q on the sphere which will cause it to become half immersed.