

PHYS1120
Summer 2025

1. A solid insulating sphere has net charge $-q$ and radius a . The insulating sphere is surrounded by a conducting, concentric shell, with zero net charge, of inner radius b and outer radius c . Find the \vec{E} field:
- (a) Inside of the insulating sphere ($0 < r < a$).
 - (b) Outside of the insulating sphere and inside the conducting shell ($a < r < b$).
 - (c) Inside of the conducting shell ($b < r < c$).
 - (d) Outside of the conducting shell ($r > c$).
 - (e) Sketch the \vec{E} field in all regions on a plot.