



كلية العلوم Faculty of Science

دائرة الفيزياء Department of Physics

Phys331/Homework #5
Due on Wednesday 2/6/2021

A dielectric sphere of radius R and has a frozen-in polarization, $\vec{P} = -\frac{q}{R^3} (R - z)\hat{z}$.

1. The surface bound charge density (σ_b) on the surface of the sphere.
2. The volume bound charge density (ρ_b) on the surface of the sphere.
3. \vec{P} , \vec{D} , and \vec{E} inside and outside the sphere.