proprep

Workbook

Table of Contents

Calculating Charge Distribution.....2
Calculating Charge Distribution 2

Calculating Charge Distribution

Calculating Charge Distribution

Questions

1) The electric field in space is given by:

$$\vec{E} = \frac{c}{r}\left(\hat{r} + cos\,\theta\hat{\theta} + sin\,\theta\,cos\,\phi\hat{\phi}\right)$$

a. What is the charge density in space?
b. Find, through integration and charge density, the amount of charge located inside a sphere of radius R.
c. Again find the amount of charge inside the sphere of radius R, this time via Gauss's law.

*For the solutions go see the videos