Discussion Session 1

1. A cylindrical surface of radius R with a symmetry axis along the z axis carries a uniform charge density σ from $0 < z < \infty$. Compute the electrical field at the origin.

2. Reconsider the cylindrical surface of radius R with a symmetry axis along the z axis with a uniform charge density σ from $0 < z < \infty$. Compute the electrical field at the point $\vec{r} = \begin{pmatrix} 0 & 0 & z \end{pmatrix}$.