

Charged ring and disk

- A circle of radius R is located on the $x-y$ plane; the z axis goes through the center of the circle. The circle carries a uniform line charge density λ . Calculate the electric field in a point along the z axis.
- A disk of radius R is located on the $x-y$ plane; the z axis goes through the center of the disk. The disk carries a uniform surface charge density σ . Calculate the electric field in a point along the z axis.
- Imagine that the disk has infinite area ($R \rightarrow \infty$); what is the electric field in this case?