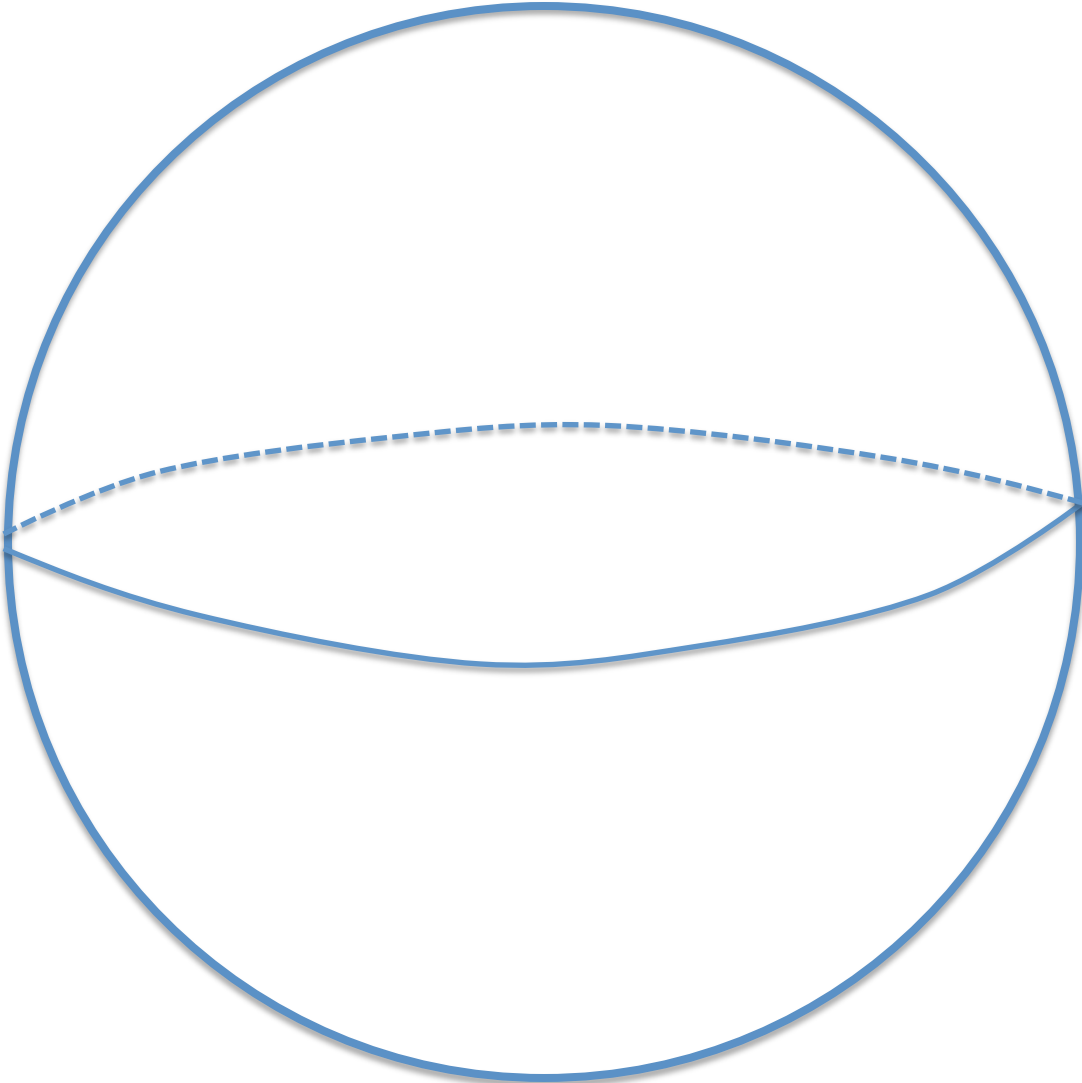
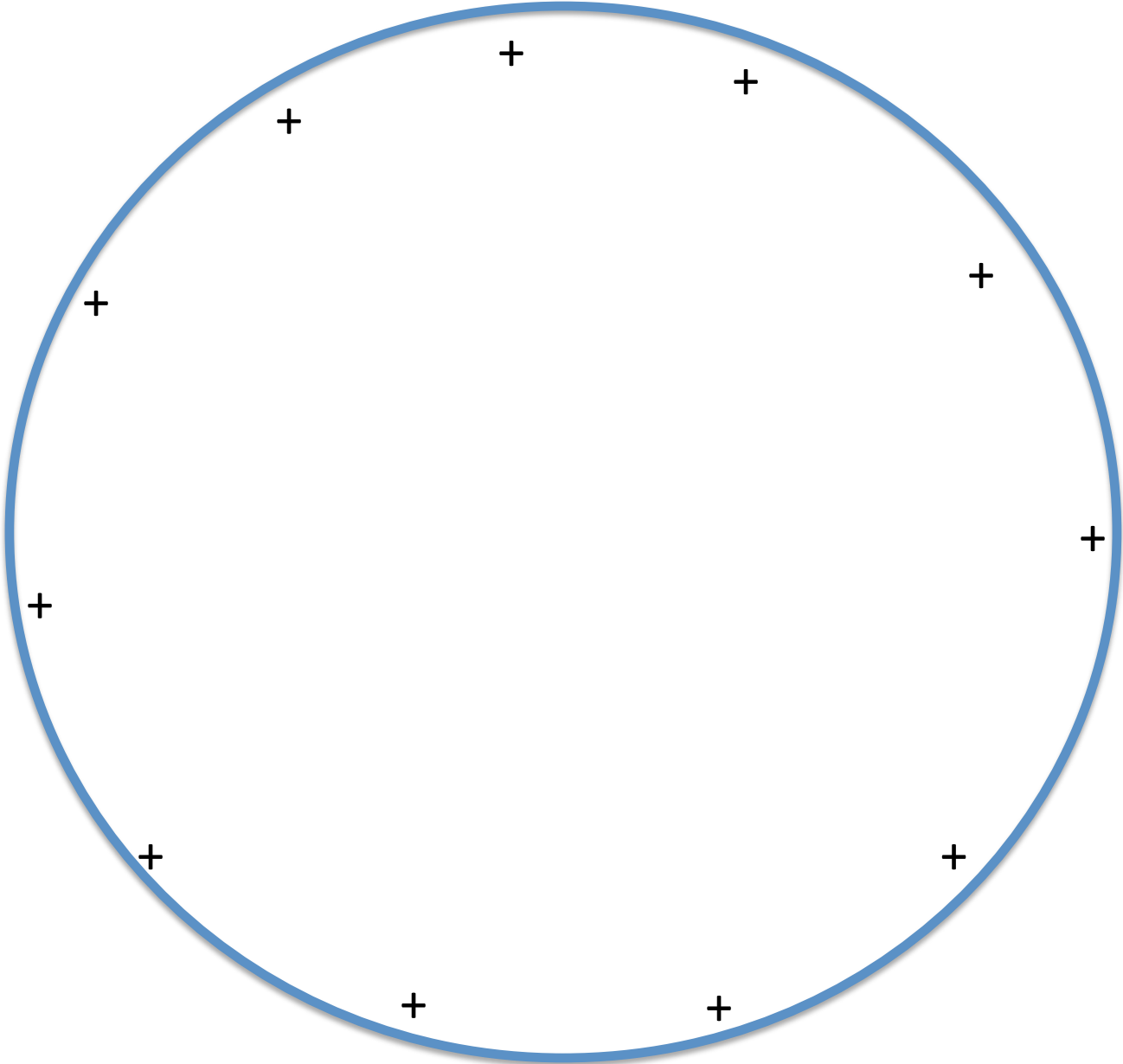


Conducting Sphere with total charge Q

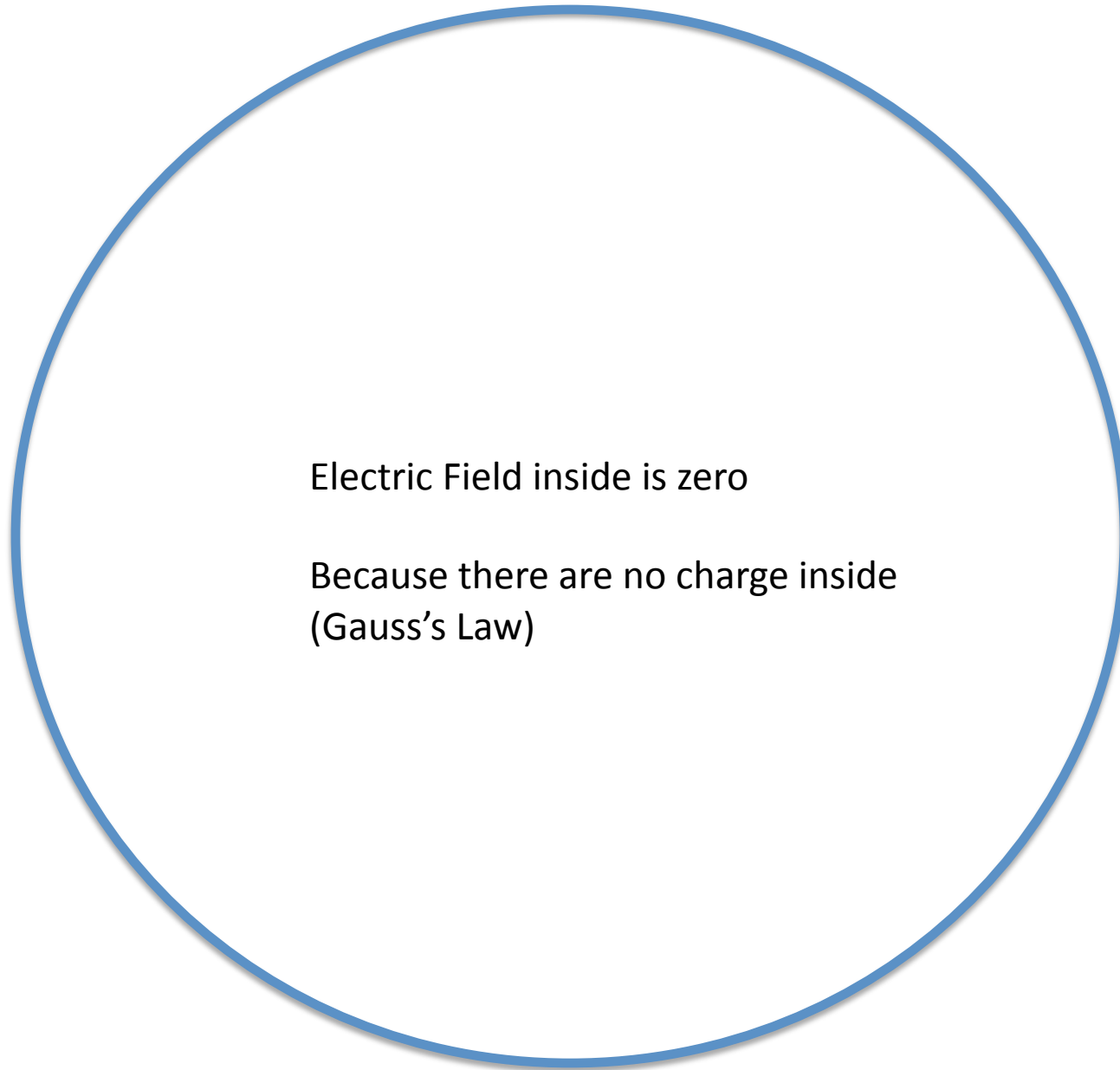


Cross section of a conducting sphere

All charges go to the surface of the sphere and uniformly distribute themselves



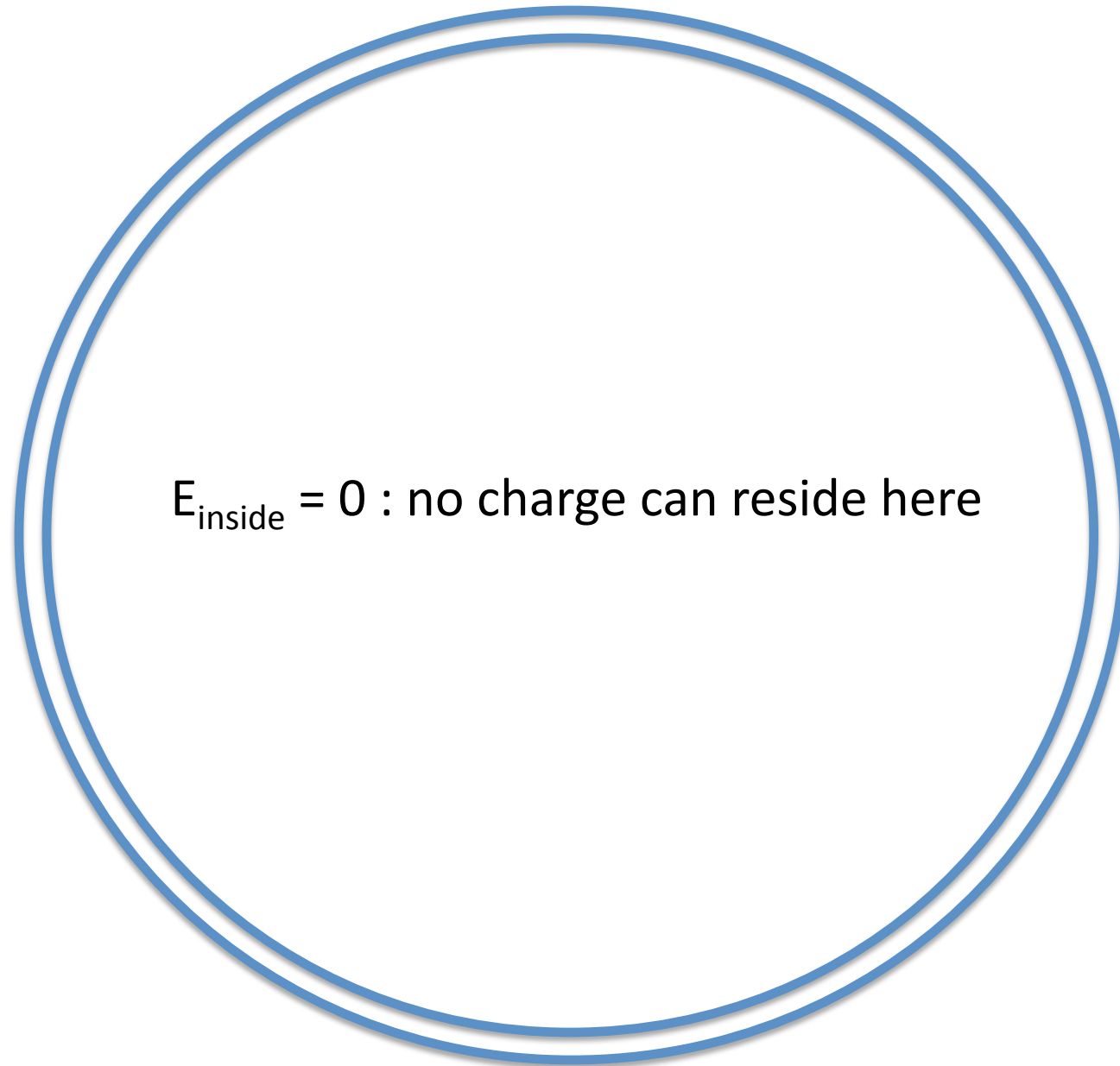
Cross section of a **conducting** sphere



Electric Field inside is zero

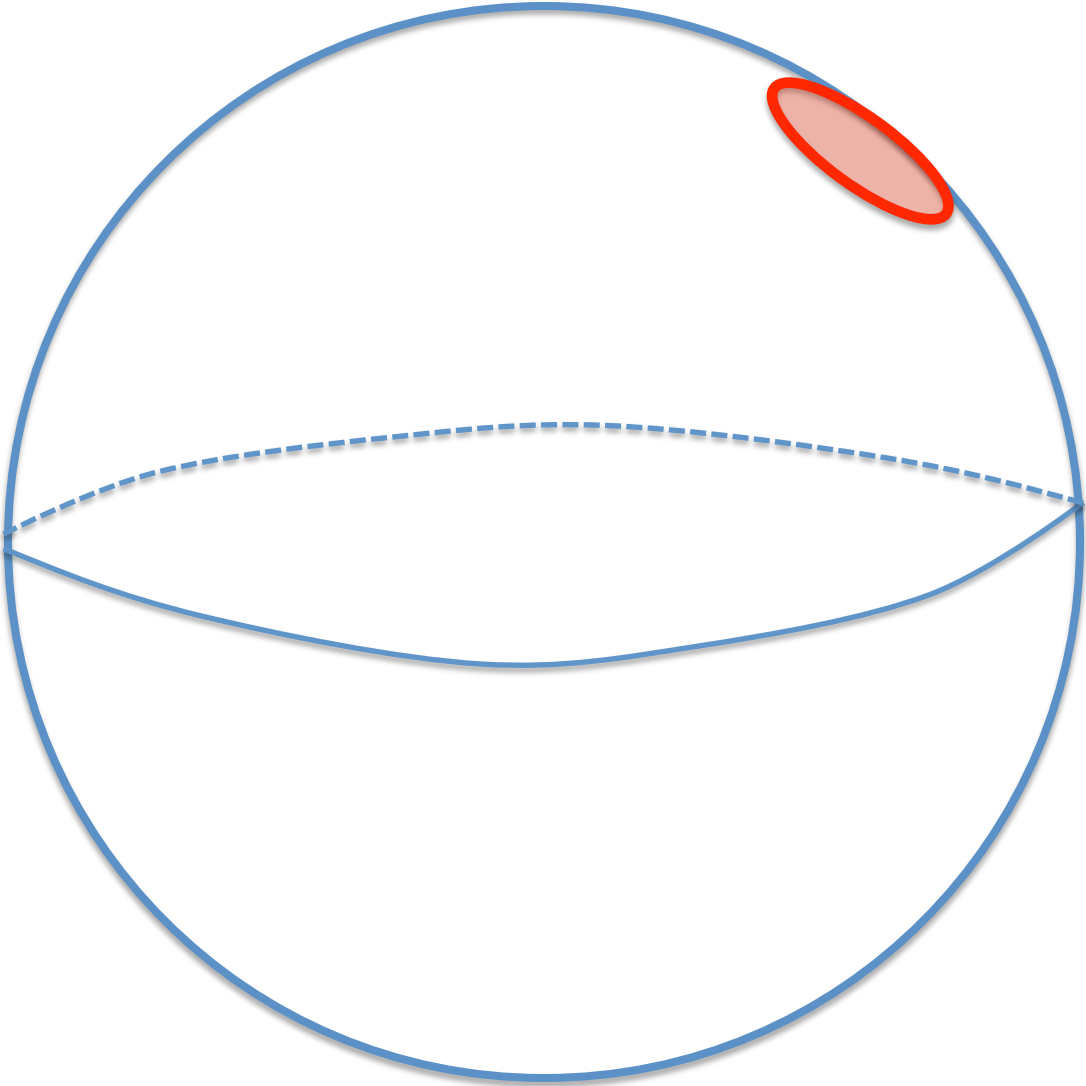
Because there are no charge inside
(Gauss's Law)

Cross section of a conducting spherical shell:: Faraday cage

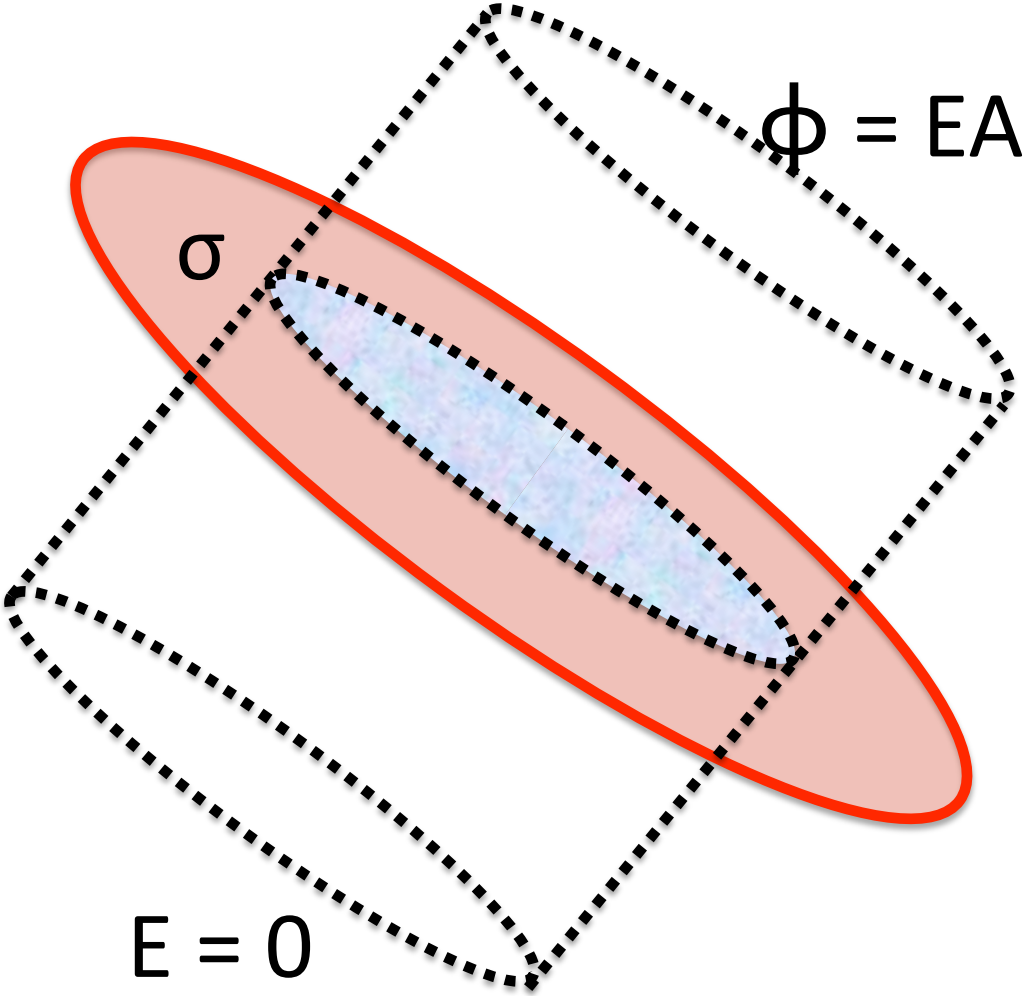


$E_{\text{inside}} = 0$: no charge can reside here

Conductive Sphere



Surface of the conductive sphere



$$\phi = EA$$

$$\phi = \sigma A / \epsilon_0$$

$$E = \sigma / \epsilon_0$$

Question #1

Can you use Gauss's Law to solve the **electric field** by charged disk?
[For calculating electric field at any arbitrary point]

- A. Yes
- B. No

Question #2

Can you use Gauss's Law to solve the **electric field** by a dipole?
[For calculating electric field at any arbitrary point]

- A. Yes
- B. No