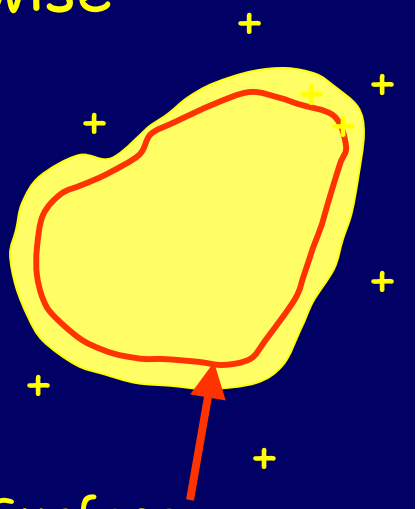
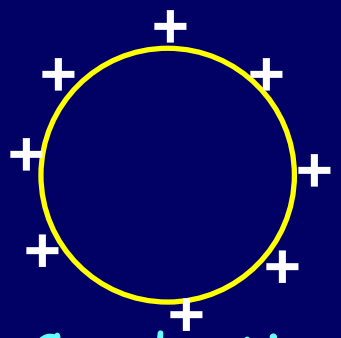
Gauss' Law and Conductors

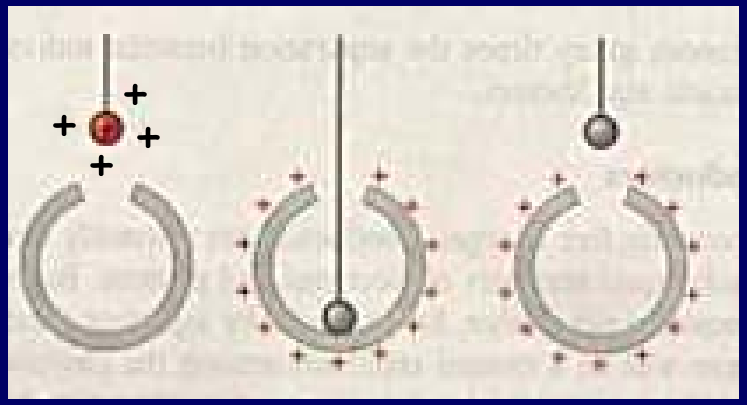
- We know that E=0 inside a conductor (otherwise the charges would move). Electrostatics!

- But since $\oint \vec{E} \bullet d\vec{A} = 0$ → $Q_{\text{inside}} = 0$.

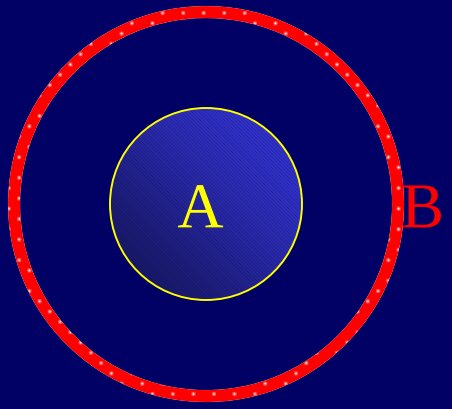


Charges on a conductor only reside on the surface(s)!





Exercise 1:

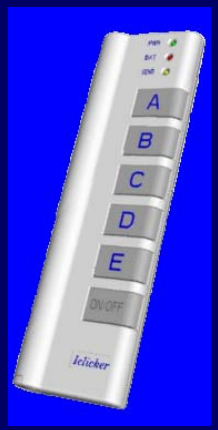


A blue sphere A is contained within a red spherical shell B. There is a charge Q_A on the blue sphere and charge Q_B on the red spherical shell.

The electric field in the region between the spheres is completely independent of Q_B the charge on the red spherical shell.

A) True

B) False



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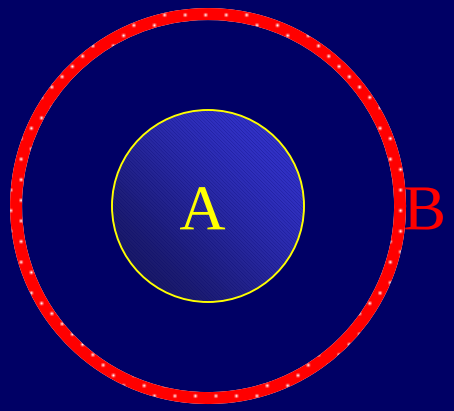

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