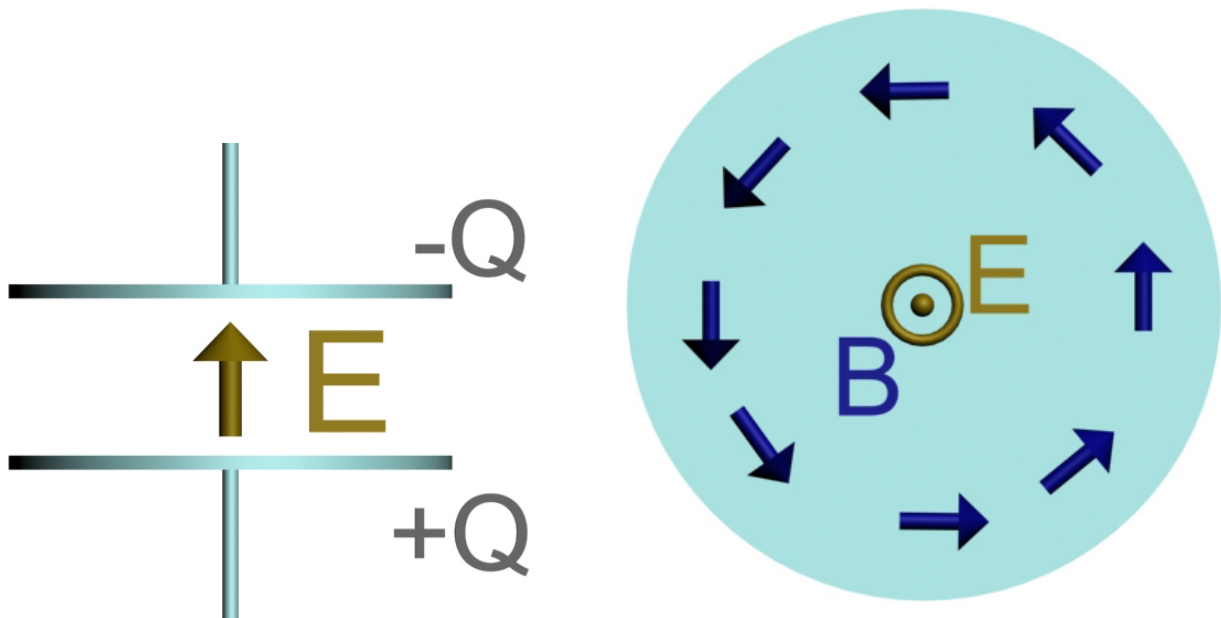


Consider the above circular capacitor, and the Amperian loop (radius r) in the plane midway between the plates. When the capacitor is charging, the line integral of the magnetic field around the Amperian loop is

1. Zero: No current crosses the surface spanning the Amperian loop
2. Zero: The magnetic field is perpendicular to the Amperian Loop
3. Non-zero: An electric current flows between the capacitor plates
4. Non-zero: There is time changing electric flux on the surface spanning the Amperian Loop



The plot above shows a side and a top view of a capacitor with charge Q with electric and magnetic fields E and B at time t . The charge Q is:

1. Increasing in time
2. Constant in time.
3. Decreasing in time.
4. Don't have a clue.