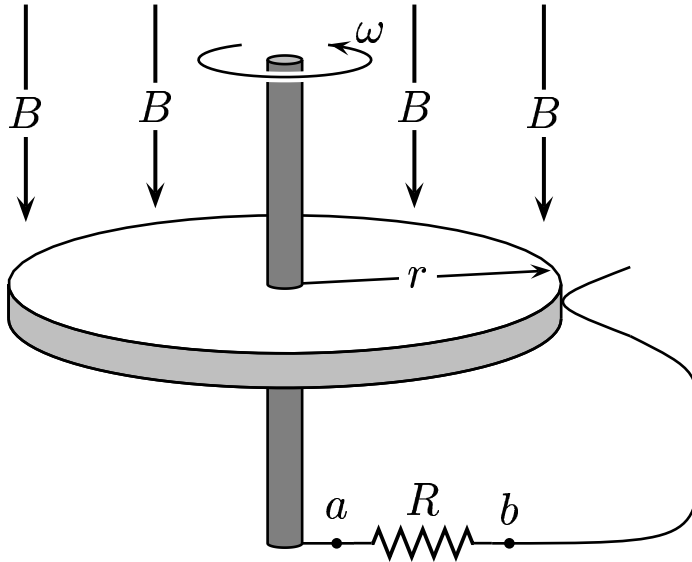


A unipolar generator is formed by a conducting disk of radius r rotating with angular velocity ω in a constant magnetic field \vec{B} directed along the axis of rotation.



The direction of current flow is

Find the direction of the current flow along the short.

- A) $b \rightarrow a$ through the resistor.
- B) zero, no current flow.
- C) $a \rightarrow b$ through the resistor.

To determine the direction of current flow Lenz's law must be invoked: the induced current and the induced EMF in a conductor are directed to oppose the change that produced them. In this problem the magnetic field through the current path is changing, so the current must flow from the outside in toward the center to produce an opposing magnetic field.

Answer C.

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