Eddy currents in a rotating cylinder. A very long conducting cylinder of radius a uniformly rotates with angular velocity ω about its axis in a uniform time-invariant magnetic field of flux density $\mathbf{B}$, as depicted in Fig. Q6.12. Streamlines of eddy currents inside the cylinder away from its ends (bases) are

(A) circular (circles centered at the cylinder axis).
(B) radial (with respect to the cylinder axis).
(C) axial (parallel to the cylinder axis).
(D) nonexistent (eddy currents are not induced in this case).

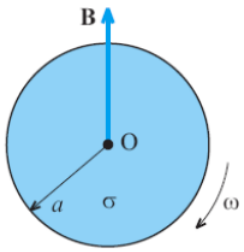

Figure Q6.12 Cross section of a conducting cylinder rotating in a uniform magnetostatic field; for Question 6.30.

Solution: (C)
Answer: (C)