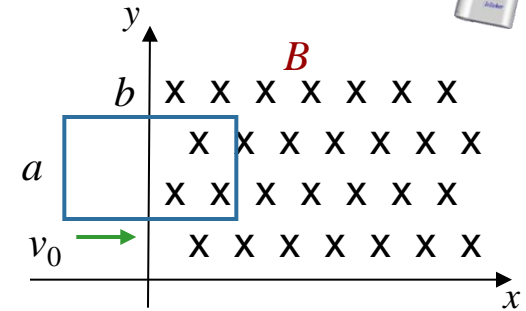


Calculation



A rectangular loop (height = a , length = b , resistance = R , mass = m) coasts with a constant velocity v_0 in $+x$ direction as shown. At $t = 0$, the loop enters a region of constant magnetic field B directed in the $-z$ direction.



What is the direction of the current induced in the loop just after it enters the field?

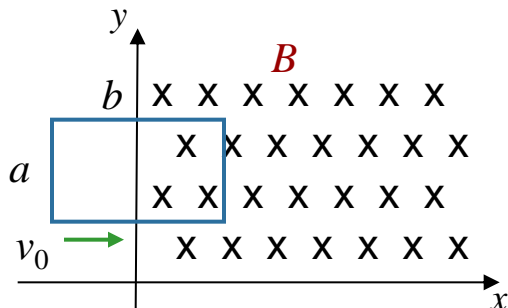
$$emf = -\frac{d\Phi_B}{dt}$$

A) clockwise

B) counterclockwise

C) no current is induced

emf is induced in direction to oppose the change in flux that produced it



Flux is increasing into the screen

Induced emf produces flux out of screen

