

A diagram illustrating the relationship between current density and velocity. A horizontal black line at the bottom represents a surface. Two vertical dashed lines are drawn at positions x and $x+dx$. A red arrow labeled $j(x)$ points to the right, crossing the dashed line at x . A black arrow labeled v points to the right, positioned between the two dashed lines. A second red arrow labeled $j(x+dx)$ points to the right, crossing the dashed line at $x+dx$.

$j(x)$

x

v

$j(x+dx)$

$x+dx$