

Exercise 2

A field $\mathbf{v}(x, y, z)$ is said to be *irrotational* if $[\nabla \times \mathbf{v}] = 0$. Which of the following fields are irrotational?

(a) $v_x = by \quad v_y = 0 \quad v_z = 0$

(b) $v_x = bx \quad v_y = 0 \quad v_z = 0$

(c) $v_x = by \quad v_y = bx \quad v_z = 0$

(d) $v_x = -by \quad v_y = bx \quad v_z = 0$