

Exercise 7

In linearized gas dynamics (sound), verify the following.

- (a) If $\text{curl } \mathbf{v} = \mathbf{0}$ at $t = 0$, then $\text{curl } \mathbf{v} = \mathbf{0}$ at all later times.
- (b) Each component of \mathbf{v} and ρ satisfies the wave equation.