

# Physics 158 Homework 1

Adapted for Winter 2024

## Thoughts on Problems

1. In-depth double slit experiment problem (hard)
2. interference problem (one easy, one hard)
3. Beats problem? (easy)
4. Standing wave problem
5. Thin film (easy)

## Problem 1

A speaker sits locked at the center of a spherical room. Another speaker of the same frequency but out of phase by  $\frac{\pi}{3}$  can be moved around. What locations could you move this other speaker so that constructive interference is heard at the centre of the room?