

Announcements: MCAT Physics session tonight 8-9pm, Olin 264.

PHYSICS & ASTRONOMY ALUMNI PANEL

Featuring the following alumni panelists who majored in Physics & Astronomy:



Laird Egan '12

Senior Quantum Systems Engineer at IonQ

Monica Herzog '13

Science Teacher at St. Vrain Valley School



Alan Dotts '09

Medical Physicist,
Wentworth-Douglass Hospital

Carleen Boyer '14

Test and Evaluation Analyst at Johns
Hopkins University Applied Physics
Laboratory



Melisa Yashinski '07

Associate Editor at AAAS



February 27, 7:30 - 9 p.m.



Bertrand Library,
Traditional Reading Room

co-sponsored by:



Bucknell
UNIVERSITY

Center for
Career Advancement

Lecture 10 — Concept Test 1

What is the wavelength of the $n = 3$ mode in this case?

1. $L/3$

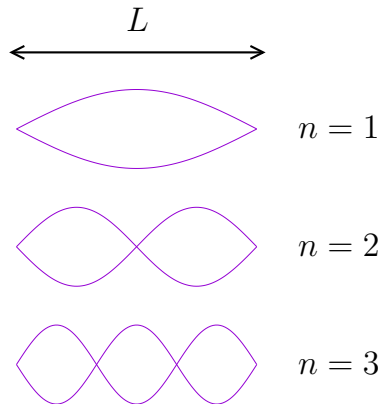
2. $L/2$

3. L

4. $2L/3$

5. $3L/2$

6. $3L$



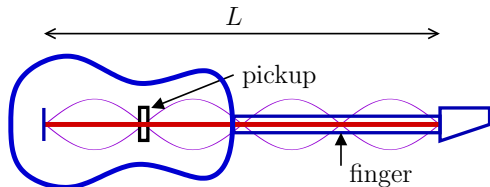
Lecture 10 — Concept Test 2

When I play the “A” string on my guitar, it produces sound with a frequency of 110 Hz. If I now pluck the D string, I hear a higher frequency note. Why?

1. The wave on the D string travels slower
2. The wave on the D string travels faster
3. The wave on the D string has a longer wavelength
4. The wave on the D string has a shorter wavelength
5. The sound of the D string travels slower through the air
6. The sound of the D string travels faster through the air

Lecture 10 — Concept Test 3

A guitar string is plucked with a finger touching the string a distance $L/4$ from the end. What sound do you hear if the electric “pickup” is located a distance $L/4$ from the opposite end of the string?



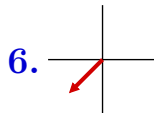
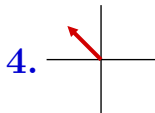
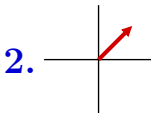
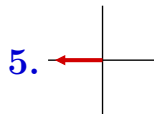
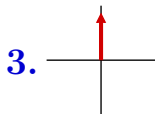
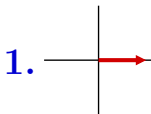
1. The frequency corresponding to the $n = 3$ mode
2. The frequency corresponding to the $n = 4$ mode
3. Almost no sound
4. Screeching feedback, similar to sounds Jimi Hendrix created

Lecture 10 — Concept Test 4

At a certain time an oscillator is described as

$$x = 6 \cos\left(\frac{3\pi}{4}\right)$$

Which of the following phasors best represents the oscillator at this position and time?



Lecture 10 — Concept Test 5

Below is a graph of the oscillation $x(t) = A \cos(\omega t + \phi_0)$. Which of the labeled times corresponds to the phasor diagram shown at right?

