

In our analogy of waves on strings to E&M waves, we said that that a light string corresponded to a (fast, slow) EM media and a heavy string corresponded to a (fast, slow) EM media.

- A. fast; slow
- B. slow; fast
- C. slow; slow
- D. fast; fast

For our reflected and transmitted waves, how many unknowns have we introduced?

$$\mathbf{E}_R = \widetilde{E}_R e^{i(k_R z - \omega_R t)} \hat{n}_R$$
$$\mathbf{E}_T = \widetilde{E}_T e^{i(k_T z - \omega_T t)} \hat{n}_T$$

- A. 2
- B. 4
- C. 8
- D. 12
- E. None of the above

For our reflected and transmitted waves, how many unknowns have we introduced?

$$\mathbf{E}_R = \widetilde{E}_R e^{i(k_I z - \omega_I t)} \hat{n}_I$$
$$\mathbf{E}_T = \widetilde{E}_T e^{i(k_T z - \omega_I t)} \hat{n}_I$$

- A. 2
- B. 4
- C. 8
- D. 12
- E. None of the above

An EM wave is normally incident on a boundary between two materials ( $n_1 \ll n_2$ ). If the incident wave starts in **material 1**,

- A. most of the wave is reflected back; very little of the wave transmits through material 2
- B. some of the wave is reflected back; some of the wave transmits through material 2
- C. very little of the wave is reflected back; most of the wave transmits through material 2
- D. ???

An EM wave is normally incident on a boundary between two materials ( $n_1 \ll n_2$ ). If the incident wave starts in **material 2**,

- A. most of the wave is reflected back; very little of the wave transmits through material 1
- B. some of the wave is reflected back; some of the wave transmits through material 1
- C. very little of the wave is reflected back; most of the wave transmits through material 1
- D. ???

An EM wave is normally incident on a boundary between two materials ( $n_1$  is close to  $n_2$ ). If the incident wave starts in **material 1**,

- A. most of the wave is reflected back; very little of the wave transmits through material 1
- B. some of the wave is reflected back; some of the wave transmits through material 1
- C. very little of the wave is reflected back; most of the wave transmits through material 1
- D. ???