

**Phy2048**

**Index of refraction.**

n =

λ’ = λ/n

v = ω /k = λ · f

*c* = speed of light in free space (vacuum)

v = speed of light in the medium

*n* = index of refraction of the medium

k = wave number

f = frequency

**Snell Law**

n1sin [θ1] = n2sin [θ2]

θ1 = incident angle

θ2 = refraction angle

**Standing Wave on a String**

**open pipe**

**n = 1, 2, 3….**

**stopped pipe**



**Phy2048**

**Index of refraction.**

n =

λ’ = λ/n

v = ω /k = λ · f

*c* = speed of light in free space (vacuum)

v = speed of light in the medium

*n* = index of refraction of the medium

k = wave number

f = frequency

**Snell Law**

n1sin [θ1] = n2sin [θ2]

θ1 = incident angle

θ2 = refraction angle

**Standing Wave on a String**

**open pipe**

**n = 1, 2, 3….**

**stoped pipe**



**Phy2048**

**Index of refraction.**

n =

λ’ = λ/n

v = ω /k = λ · f

*c* = speed of light in free space (vacuum)

v = speed of light in the medium

*n* = index of refraction of the medium

k = wave number

f = frequency

**Snell Law**

n1sin [θ1] = n2sin [θ2]

θ1 = incident angle

θ2 = refraction angle

**Standing Wave on a String**

**open pipe**

**n = 1, 2, 3….**

**stoped pipe**





Transverse Wave Function

E = E0 sin (kx- ωt)

= E0 sin (

= E0sin

= E0

= E0

= E0= E0

= E0 = E0sin

= E0sin

= E0sin

**Sound level**

β= (10 dB)

**Beat**

**Two sound waves with slightly different frequencies**

**If then**

**= n**

**= (n**

**= -**



E = E0 sin (kx- ωt)

= E0 sin (

= E0sin

= E0

= E0

= E0= E0

= E0 = E0sin

= E0sin

= E0sin

**Sound level**

P= (10 dB)

**Beat**

**Two sound waves with slightly different frequencies**

**If then**

**= n**

**= (n**

**= -**



E = E0 sin (kx- ωt)

= E0 sin (

= E0sin

= E0

= E0

= E0= E0

= E0 = E0sin

= E0sin

= E0sin

**Sound level**

P= (10 dB)

**Beat**

**Two sound waves with slightly different frequencies**

**If then**

**= n**

**= (n**

**= -**