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REFRACTED ANGLE =(11/14) INCIDENT ANGLE

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ABSTRACT

Sun light is a portion of the electromagnetic radiation given off by the sun .It contains infrared light , visible light and ultraviolet light. The sun light moves from the sun to the Earth according to the law , 14 parts Action = 11 parts Reaction + 3 parts Absorption .This implies that, 1 part Action = (11/14) part Reaction + (3/14) part Absorption. The refraction is the change in direction of a wave passing from one medium to another . The refraction of light is called the reaction of light and the incident of light is the action of light . So Reaction = (11/14) part of Action and Absorption = (3/14) part of Action . Similarly , Angle of Refraction = (11/14) part Angle of Incidence and Angle of Absorption = (3/14) part Angle of Incidence .

Motion is rotation and rotation is a simultaneous motion in vertical cycloid path as well as on horizontal straight line path, So this type of motion is a wave. If a force is applied on a wheel and that force simultaneously converts to the centripetal force as well as the centrifugal force then the wheel moves forward. So every point on the wheel moves vertically on a curved path to cover horizontally on a straight line path. This fact gives rise to a law , **14 parts of Action = 11 parts of Reaction + 3 parts of Absorption .** Everything of the Universe moves from one place to another place according to this law .

The following laws are derived from the above facts as follows ,

LAW OF MOTION ---------- Nrusingh's 1st law

(a) INERTIA OF REST : A body is at rest, until the applied force on it , converts to the centripetal force as well as the centrifugal force .

(b) INERTIA OF MOTION : A body is at motion, as long as the applied force on it , converts to the centripetal force as well as the centrifugal force .

The following law is derived from Nrusingh's 1st law

THE FORCE OF ACTION IS ALWAYS EQUAL TO THE SUM OF OPPOSITE REACTION AND ABSORPTION ---------- Nrusingh's 2nd law

This implies that ,

14 PARTS ACTION = 11 PARTS REACTION + 3 PARTS ABSORPTION

So **1 PART ACTION = (11/14) PART REACTION +**

(3/14) PART ABSORPTION

The following laws are derived from Nrusingh's 2nd law

Force = (11/14) Mass * Acceleration ----- Nrusingh's 3rd law

Energy = (11/14)mass(velocity of light)^2 ---- Nrusingh's 4th law

Pressure * Volume = (11/14) Temperature ---- Nrusingh's 5th law

Pressure = (11/14) Force / Area ---- Nrusingh's 6th law

Energy = (11/14) Frequency ---- Nrusingh's 7th law

Work = (11/14) Force * Distance ---- Nrusingh's 8th law

THE ACCELERATION DUE TO GRAVITY OF AN OBJECT IS 11 m/s²

ON THE EARTH - --- - --- Nrusingh's 9th law

THE GRAVITATIONAL FORCE OF THE HEAVIER BODY IS DIRECTLY PROPORTIONAL TO THE PRODUCT OF THE MASS AND ACCELERATION OF THE LIGHTER BODY

This implies that ,

GRAVITATIONAL FORCE OF HEAVIER BODY =

{ (11/14) (MASS * ACCELERATION) OF LIGHTER BODY } ----- Nrusingh's 10th law

APPLIED HEAT = (3/14) ABSORBED HEAT + (11/14) WORK DONE HEAT

This implies that , **Q = (3/14) U + (11/14) W ----- Nrusingh's 11th law**

The refraction law of light is derived from the following law ,

1 PART ACTION = (11/14) PART REACTION +

(3/14) PART ABSORPTION

The following law is the refraction law of light

ANGLE OF REFRACTION = (11/14) ANGLE OF INCIDENCE

----- Nrusingh's 12th law

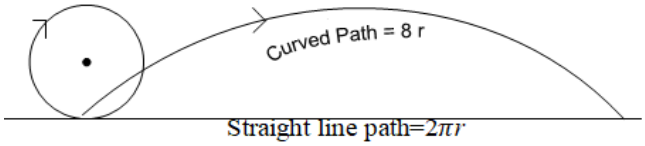
where (11/14) is the constant of proportionality

KEY WORDS :

Light, Angle of refraction, Angle of incident, Absorption, Action, Reaction, Centripetal force, Centrifugal force, Cycloid path , Straight line path

INTRODUCTION:

If a force is applied to a wheel so that the force is converted to the centripetal force as well as the centrifugal force then every point of the wheel moves vertically **8r**



length in a cycloid path by the centripetal force and Simultaneously the same point covers **2πr length** horizontally on a straight line path by the centrifugal force. The cycloid is a curved path, which is traced out by a point on a circle that rolls on a straight line . where r is the radius of the circle .

Suppose s_1= length of the cycloid path and s_2 = length of the straight line path

So s_1 = 8 r and s_2 = 2 π r where r is the radius of the circle .

Hence **8r > 2πr => $s_1 > s_2$**

Here $\frac{ds_1}{dt} = v_1$ = Velocity of any point on the cycloid path,

And $\frac{ds_2}{dt} = v_2$ = Velocity of the same point on the straight line path

As $s_1 > s_2 \Rightarrow \frac{ds_1}{dt} > \frac{ds_2}{dt}$

So $v_1 > v_2 \Rightarrow mv_1 > mv_2 \Rightarrow m\frac{dv_1}{dt} > m\frac{dv_2}{dt} \Rightarrow ma_1 > ma_2$

$\frac{dv_1}{dt} = a_1$ = Acceleration of any point on the cycloid path

and $\frac{dv_2}{dt} = a_2$ = Acceleration of the same point on the straight line path .

Hence $ma_1 > ma_2 \Rightarrow F_1 > F_2$

Here $F_1 = ma_1$ and $F_2 = ma_2$

But **the magnitude of the centripetal force is equal to the magnitude of the centrifugal force.**

But here $F_1 > F_2$

=> $F_1 - F_2$ = **SOME ABSORBED FORCE**

=> $F_1 = F_2$ + **SOME ABSORBED FORCE**

Here F_1= **CENTRIPETAL FORCE**

= **ACTION FORCE**

And F_2 = **REACTION FORCE**

Hence **CENTRIFUGAL FORCE** = F_2 + **SOME ABSORBED FORCE**

= **REACTION FORCE** + **SOME ABSORBED FORCE**

=> **CENTRIFUGAL FORCE** = **REACTION FORCE** + **SOME ABSORBED FORCE**

So **ACTION FORCE** = **REACTION FORCE** + **ABSORPTION FORCE**

This implies that,

ACTION = **REACTION** + **ABSORPTION**

Case-I

when **ACTION** = **REACTION** + **ABSORPTION**

Then the body moves some distance

Case-II

when **ABSORPTION** = **0**

Then **ACTION** = **REACTION + ABSORPTION**

= REACTION + 0 = **REACTION**

=> **ACTION** = **REACTION**

So the body does not move

SUBJECT MATTER :

Rotation is motion and vice versa. A body is at rest, until the applied force on it , converts to the centripetal force as well as the centrifugal force .

A body is at motion, as long as the applied force on it , converts to the centripetal force as well as the centrifugal force .

When a force is applied to a wheel and that force simultaneously converts to the centripetal force as well as the centrifugal force, Then the wheel rotates and moves in a curved path to cover a straight line path.

This implies that rotation makes every thing to move simultaneously in a vertical cycloid path to cover on a horizontal straight line path.

The simultaneous motion of a point in a vertical cycloid path as well as on a horizontal straight line path is a wave.

So every thing moves in waves. The length of the vertical cycloid path of the wave is **8r** and the length of the horizontal straight line path of the same wave is $2\pi\mathbf{r}$.

Every point of a wheel moves **8r length** on the cycloid path by the centripetal force and simultaneously the same point of the wheel covers $2\pi\mathbf{r}$ **length** on the straight line path by the Centrifugal force.

So **ACTION OF CENTRIPETAL FORCE : REACTION OF CENTRIFUGAL FORCE**

$= F_1 : F_2 = 8r : 2\pi r = 8r : (2 * 22/7)r$

$= (8 * 7/7)r:(2 * 22/7)r=(56/7)r : (44/7)r$

$=> F_1 : F_2 = 56r : 44r = 42r : 33r$

$= 28r : 22r = 14r : 11r$

Here r is the radius of the circle, which makes the cycloid.

The value of r may be any positive number or any positive fractional number ,

When **r = 1** , **14r : 11r = 14 : 11**

Hence $F_1 : F_2 = 14 : 11$

This implies that,

" TO EVERY 14 PARTS OF ACTION , THERE IS 11 PARTS OF REACTION "

The magnitude of the centripetal force is equal to the magnitude of the centrifugal force.

So each one of centripetal force as well as the centrifugal force must do equal amount of work .

But here centripetal force does more work than the centrifugal force, This implies that some amount of centrifugal force is absorbed on the road so that same amount of distance could not be covered by the point on the straight line path.

Hence **14 PARTS ACTION – 11 PARTS REACTION = 3 PARTS ABSORPTION**

This implies that ,

To every 14 parts of action, there is 11 parts of reaction and 3 parts of absorption .

This implies that ,

14 PARTS ACTION = 11 PARTS REACTION + 3 PARTS ABSORPTION

=> **1 PART ACTION = (11/14) PART REACTION + (3/14) PART ABSORPTION**

This implies that , if a medium absorbs (3/14) part of the force out of 1 part of the force of a body then the medium allows the body to move on it by the rest (11/14) part of the force .

This implies that ,

=> **1 part of the centripetal force = (11/14) part of the centrifugal force used for motion + (3/14) part of the centrifugal force used for absorption .**

=> **1 part of the centripetal force = 1 part of the centrifugal force**

This implies that ,

Out of 1 part of the applied force .

(11/14) part of force is used only for the working purpose and the rest (3/14) part of force is used for the absorption purpose .

When light rays travelling through air enters into glass slab then the rays get refracted and bends towards the normal.

The light rays travelling from rarer medium to denser medium then they bend towards the normal .

Similarly the light rays travelling from denser medium to rarer medium bend away from the normal .

When light rays travelling through air enter into a rectangular glass slab, they get refracted and bend towards the normal.

The light bends towards the normal because the light is absorbed there .

This phenomenon occurs according by the following law ,

1 PART ACTION = (11/14) PART REACTION + (3/14) PART ABSORPTION

The motion of sun light from one medium to another medium is called the refraction of light .

The refraction of light is called the reaction of light and the incident of light is the action of light.

So Reaction = (11/14) part of Action and Absorption = (3/14) part of Action Similarly , Angle of Refraction = (11/14) part Angle of Incident

and Angle of Absorption = (3/14) part Angle of Incident .

When 14 parts of force is applied to a light then the light moves by 11 parts of force and the rest 3 parts of force is absorbed by the medium .

CASE-I

Angle of incidence = 5^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 5^0. So

Angle of refraction = (11/14) part of angle of incidence = $(11/14)\ 5^0 = 3.92^0$

If **Angle of incidence = 5^0** then

Angle of refraction = 3.92^0

CASE-II

Angle of incidence = 15^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 15^0. So **Angle of refraction = (11/14) part of angle of incidence =** $(11/14)\ 15^0 = 11.78^0$

If **Angle of incidence = 15^0** then

Angle of refraction = 11.78^0

CASE-III

Angle of incidence = 30^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 30^0. So

Angle of refraction = (11/14) part of angle of incidence = $(11/14)\ 30^0 = 23.57^0$

If **Angle of incidence = 30^0** then

Angle of refraction = 23.57^0

CASE-IV

Angle of incidence = 45^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 45^0. So

Angle of refraction = (11/14) part of angle of Incidence = $(11/14)\ 45^0 = 35.35^0$

If **Angle of incidence = 45^0** then

Angle of refraction = 35.35^0

CASE-V

Angle of incidence = 50^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 50^0.

So Angle of refraction = (11/14) part of angle of incidence = $(11/14)\ 50^0 = 39.28^0$

If **Angle of incidence = 50^0** then

Angle of refraction = 39.28^0

CASE-VI

Angle of incidence = 55^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 55^0. So

Angle of refraction = (11/14) part of angle of incidence = $(11/14)\ 55^0 = 43.21^0$

If **Angle of incidence = 55^0** then

Angle of refraction = 43.21^0

CASE-VII

Angle of incidence = 60^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 60^0. So

Angle of refraction = (11/14) part of angle of incidence = $(11/14)\ 60^0 = 47.14^0$

If **Angle of incidence = 60^0** then

Angle of refraction = 47.14^0

CASE-VIII

Angle of incidence = 65^0

Here the angle of incidence of a ray of light on a rectangular glass slab is 65^0. So **Angle of refraction = (11/14) part of angle of incidence =** $(11/14)\ 65^0 = 51.07^0$

If **Angle of incidence = 65^0** then

Angle of refraction = 51.07^0

The followings are some examples of refraction according to the given law

REFRACTED ANGLE

=(11/14) INCIDENT ANGLE

Incident Angle	Refracted angle
0^0	0^0
10^0	7.85^0
20^0	15.71^0
25^0	19.64^0
35^0	27.5^0

CONCLUSION :

Reflection is the change in direction of a wave at a boundary between two different media, so that the wave moves back into the medium it came from .

So the reflection of light does not obey the following law,

14 PARTS ACTION = 11 PARTS REACTION + 3 PARTS ABSORPTION

The force of light is not absorbed by the plane mirror .

So here **Absorption = 0**

=>**14 PARTS ACTION =11 PARTS REACTION + 3 PARTS ABSORPTION**

=>**14PARTS ACTION=14PARTS REACTION+0**

=>**14PARTS ACTION=14PARTS REACTION**

=> **ACTION = REACTION**

Here **angle of incidence = Action**

And **angle of reflection = Reaction**

So angle of incidence=angle of reflection

As the left palm seems to be the right palm, if it is shown in front of the plane mirror,

Similarly the left ray of light ,if it is fallen on the plane mirror seems to be reflected on the right side of it .

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