Global Scientific JOURNALS
GSJ: Volume 9, Issue 12, December 2021, Online: ISSN 2320-9186
www.globalscientificjournal.com

# THE GRAVITY IS THE PULLING FORCE OF THE CYCLOID CENTRE OF THE MOVING BODY

**Nrusingh Charan Mohapatra , M.Sc., M.Phil.**

**Retd Reader in Mathematics, B.P. College ,Odisha ,India**

## ABSTRACT

**THE GRAVITY IS THE PULLING FORCE OF THE CYCLOID CENTRE OF THE MOVING BODY.**

**The body's motion makes itself to be attracted to another body . Motion is rotation and rotation is the simultaneous motion in the vertical cycloid path as well as on the horizontal straight line path. The cycloid path is a part of a circular path, so it has a cycloid centre, which attracts the body from the cycloid path towards it .This attraction is the gravitation . Everybody rotates on a circular path to move simultaneously on a cycloid path as well as on a straight line path. Due to the cycloid path motion of a body, the body is pulled towards the centre of the cycloid path .The pulling force of the cycloid centre to the body is called the gravity.**

**Every celestial body does not have the gravitational force to attract any other body, But it is attracted towards a bigger celestial body due to its motion when its cycloid centre lies inside the bigger celestial body . The Earth does not have the gravitational force but when the cycloid centre of a small body lies inside the Earth then the cycloid centre of that body pulls itself towards the Earth, which is called the gravity. Hence gravity is the motion of a body towards its cycloid centre. The cycloid centre of a big body can not lie inside a small body , But the converse is true .The moving body haves the gravitational force only . So motion of a body makes the gravitation.**

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 rotates to move some distance . The following laws are derived from the motion of a wheel on the road .

**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**

=> **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 equal to 11m/s$^2$ on the earth** ----------Nrusingh's 9th law

**Gravitational force of heavier body = (11/14 )mass* acceleration of lighter body** ----- Nrusingh's 10th law

**Applied Heat = (3/14) Absorbed Heat + (11/14) Workdone Heat**

=> **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

**The following law is derived from Nrusingh's 5th law of general gas law**

**HEAT ENERGY = (11/14) TEMPERATURE** ----- Nrusingh's 13th law

**where (11/14) is the constant of proportionality**

**Every body moves by its own energy or the applied force on it .**

**As Work = (11/14) Force * Distance = Energy**

**So Energy of a body makes its own force to move some distance .Gravitation is the own motion of a body due to the pulling force of its cycloid centre ,where the cycloid centre of a small body lies inside another big body.**

**KEY WORDS** :

Gravity, Motion, Cycloid centre, Absorption, Action, Reaction, Centripetal force, Centrifugal force , Cycloid path, Straight line path .

## INTRODUCTION :

The Earth has gas, liquid and solid. Hence Earth consists of air, water and matter.

Matter has more density than air and water. Water has more density than air .

If a stone is dropped above the water of a pond then the stone first travels in the upper air of the pond then it travels in the water of the pond lastly it reaches on the earth of the pond .The earth is solid and the stone is solid, So solid goes to solid due to the Universal law. Similarly liquid goes to liquid and air goes to air .

Birds of same feather flock together. This implies that same things gather together, it is the rule of the Universe. So small amount of thing goes to the big amount thing to gather together .This is the law of the Universe. The water of a river which is thousand miles away flows to gather in the water of the Ocean, but the water of the Ocean does not attract the river water. The water of river is very less amount in comparison to the water of Ocean . This implies that small amount of thing goes to the big amount of thing to flock .

An apple falls from the tree to the earth because the apple is very very small in comparison to the Earth, Small solid apple goes to so big solid earth, Because the small thing goes to the big thing to gather together .

**Case-1:** When a stone is thrown into the sky, it moves by the applied force . Due to the absorption of the force in the surrounding that force decreases continuously to zero . So the stone falls on the Earth. Hence the reason of falling of the stone on the earth is not the gravity of the Earth .

**Case-2:** If a stone is thrown into the sky, then it rotates like a point on the unseen circle , So that it moves simultaneously on a cycloid path as well as on a straight line path. The cycloid centre of the cycloid path of the stone lies inside the Earth, So the cycloid centre of the stone pulls the stone towards it , as a result the stone falls on the Earth. Hence the Earth does not attract the stone. If the cycloid centre of the stone would not lie inside the Earth then the stone would not fall on the Earth .

Man walks on the road so that every foot of him rotates on an unseen circle to move smultaneously on a cycloid path as well as on a straight line path ,

Where the cycloid centre of each foot lies inside the earth,

Hence the cycloid centre pulls the foot to the earth.

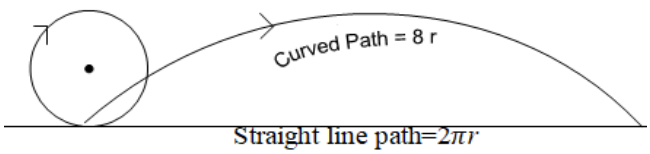
**So a body is attracted to another body due to its motion.**

## SUBJECT MATTER

If a force is applied on a body and that applied force simultaneously converts to the centripetal force as well as the centrifugal force then the body moves some distance. That is, due to the action on the body, the body moves some distance by its reaction and absorption .

The wheel of a vehicle moves uniformly on the road, So the action, reaction and absorption relation is derived accurately from the motion of a wheel on the road.

When a force is applied to a wheel, the wheel rotates on the road so that every point on it ,which touches the road moves simultaneously vertically on a cycloid path to cover horizontally on a straight line path in its every rotation .




Centripetal force is a force, which is required to move a body uniformly on a circle. This force acts along the radius and directed towards the centre of the circle.

The body has a constant tendency to regain its natural straight line path .This tendency gives rise to a force, which is called the centrifugal force .It acts along the radius and away from the centre of the circle .

Centripetal force is the action force and centrifugal force is the sum of the reaction force as well as the absorption force. So where is centripetal force, there is centrifugal force also.

**The length of cycloid path is $8r$ by the calculus and the length of straight line path is $2\pi r$ by the geometry .**

In one complete rotation , Every point of a wheel moves **8r length** on a cycloid path by centripetal force and simultaneously the same point covers **$2\pi r$ length** on a straight line path by centrifugal force. Where r is the radius of the circle, which generates the cycloid . **The cycloid is a curved path, which is traced out by a point on a circle that rolls on a straight line.** Cycloid is a part of the circular path , So Centripetal force acts on the point , Which moves on the cycloid path. The cycloid path has a centre, which is the cycloid centre . The cycloid centre attracts the rotating point which moves on the cycloid path, As the centripetal force acts along the radius and directed towards the centre of the circle .

The cycloid centre of any moving point always lies beneath the road . So

**THE GRAVITY IS THE PULLING FORCE OF THE CYCLOID CENTRE OF THE MOVING BODY.**

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

So $s_1 = 8\,r$ and $s_2 = 2\,\pi\,r$

Here $8r > 2\pi r \Rightarrow s_1 > s_2$

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

Let $v_1 = \frac{ds_1}{dt} = velocity\ of$ the point on cycloid path

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

So $v_1 > v_2 \Rightarrow mv_1 > mv_2$

$\Rightarrow m\frac{dv_1}{dt} > m\frac{dv_2}{dt} \Rightarrow ma_1 > ma_2$

where $\frac{dv_1}{dt} = a_1$ = acceleration of point ,

$\frac{dv_2}{dt} = a_2$= acceleration of same point ,

$F_1 = ma_1$ and $F_2 = ma_2$

As $ma_1 > ma_2 \Rightarrow F_1 > F_2$

The magnitude of the centripetal force is equal to the magnitude of the centrifugal force and the directions are opposite to each other . So both the forces must do equal amount of work, But $F_1 > F_2$

This implies that some amount of the centrifugal force is absorbed on the way ,

So that **the centrifugal force could not do equal amount of work with the centripetal force .**

$\Rightarrow F_1 = F_2 +$ **SOME ABSORBED FORCE**

$As \quad F_1 > F_2$

**Here CENTRIPETAL FORCE = $F_1$**

**= ACTION FORCE**

$But \quad F_2 =$ **REACTION FORCE**

**Here CENTRIFUGAL FORCE**

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

**= REACTION FORCE + ABSORPTION FORCE**

**=> CENTRIFUGAL FORCE = REACTION FORCE + ABSORPTION FORCE**

This implies that

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

So **ACTION = REACTION + ABSORPTION**

If force is applied to a wheel then every point of it moves vertically **8r length** by the centripetal force and simultaneously the same point covers horizontally **$2\pi$r length** by the centrifugal force .

$Hence \quad F_1 : F_2 =$

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

This implies that $F_1 : F_2 =$ **8r : 2$\pi$r**

**Here r can take any positive number or any fractional value** .

So $F_1 : F_2 =$ **8r : 2$\pi$r = 8 : 2$\pi$**

**=8 : (2 * 22/7)=(8 * 7/7) : (2 * 22/7)**

**= 56/7 : 44/7 = 56 : 44 = 14 : 11**

**But 14 : 11 = 14/2 : 11/2 = 14/3 : 11/3**

**= 14/4 : 11/4 = 14/5 : 11/5 = 14/6 : 11/6 = 14/7 : 11/7 ……. etc.**

**And 14 : 11 = 28 : 22 = 42 : 33 = 56 : 44 = 70 : 55 = 84 : 66 = 98 : 77 = 112 : 88 = 126 : 99……. etc.**

**The following ratio is unique in every body's motion in the world .**

**Cycloid path motion : Straight line path motion = 14 : 11 .**

Hence **" 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 the centripetal force as well as 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 in the road,**

**So the centrifugal force could not do equal amount of work with the centripetal force .**

This implies that

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 **,**

**ACTION = REACTION + ABSORPTION**

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

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**

Every body is moving in this Universe according the following law ,

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

**The above law is the motion law as well as the gravitation law .**

When 14 parts of force is applied to a wheel and that force is simultaneously converted to centripetal force and centrifugal force, then 3 parts of that force is absorbed by the road and the rest 11 parts of the force makes the wheel to move on the road.

This implies that , every celestial body is a sphere and it moves in the space in rotations like a wheel on the road .

So Earth is a sphere and it moves in the space by its own force like a wheel on the road.

**But Force=(11/14)mass*acceleration**

Gravitational force is a force by which a body moves some distance towards another body. Every body moves by the pulling force of its cycloid centre .

**Hence Gravitational force**

**= (11/14) mass * acceleration**

## CONCLUSION :

Every wheel rotates on the road to move simultaneously on the cycloid path as well as on the straight line path . So the following ratio is the law of motion,

**Cycloid path motion : Straight line path motion = 14 ; 11 .**

The wheel is always directed towards the centre of the cycloid which is inside the road, Because the cycloid centre always pulls the wheel towards it .

Every celestial body moves in the Universe just like the motion of a wheel on the road . Every celestial body moves in the space due to its simultaneous rotation and motion on the cycloid path as well as the straight line path.

When the cycloid centre of a small celestial body lies inside another big celestial body then the cycloid centre pulls the small celestial body on to the big celestial body in the space .If the cycloid centre of small celestial body does not lie inside the big celestial body,

Then the small celestial body is not attracted to the big celestial body .

Here the cycloid centre of a small celestial body which is inside another big celestial body attracts itself towards big celestial body .

## REFERENCES :

The followings are the published papers of the IJSER journal as well as GSJ journal

**1) Nrusingh's 1st law**

**IJSER,volume-10 ,issue-12, December-2019**

**2) Nrusingh's 2nd law**

**IJSER , volume-6 , issue -7, July-2015**

**3) Nrusingh's 3rd law**

**IJSER , volume-11 , issue- 3, March-2020**

**4) Nrusingh's 4th law**

**GSJ ,volume-8, issue-9, September-2020**

**5) Nrusingh's 5th law**

**GSJ ,volume-8, issue-12, December-2020**

**6) Nrusingh's 6th law**

**GSJ ,volume-8 ,issue-12, December-2020**

**7) Nrusingh's 7th law**

**GSJ , volume-9, issue-01, January-2021**

**8) Nrusingh's 8th law**

**GSJ ,volume-9 , issue-01, January-2021**

**11) Nrusingh's 11th law**

**GSJ ,volume-9, issue-02, February-202110)**

**12) Nrusingh's 12th law**

**GSJ ,volume-9, issue-04, April-2021**

**13) Nrusingh's 13th law**

**GSJ ,volume-9, issue-05, April-2021**