Chapter-A

FORCES IN SPECIAL THEORY OF RELATIVITY MAKE SPECIAL THEORY OF RELATIVITY WRONG

CALCULATION 1:- FORCE WITHOUT ACCELERATION, ACCELERATION WITHOUT FORCE & APPLIED FORCE IS LESS THAN ACTING FORCE IN SPECIAL THEORY OF RELATIVITY.

STEP 1:-This problem can easily be understood by following paradox.

{Before starting this paradox, I want to put one relativity formula's given in standard book of relativity for example "Page no. 135 of Elements of special relativity" by Dr T.M. Karade, Dr K S Adhav & Dr Maya S Bendre.

In any frame, for force in X-direction by S.R.

$$Fx = d/dt(y.\ mo.\ ux) \quad \text{where } y=(1-u^2/c^2)^{-0.5}$$

So, after differentiation

$$Fx= y.\ mo.\ (dux/dt) + y^3.\ mo.\ \{ux/c^2\}.\ (u\ .\ du/dt)$$

$$Fx= y.\ mo.\ ax + y^3.\ mo.\ \{ux/c^2\}.\ (u\ .\ a) \quad \text{-----(A)}$$

We know, $u^2=ux^2+uy^2+uz^2$

So, after differentiation

$$2\ u.\ (du/dt) = 2.ux\ (dux/dt) +2.uy\ (duy/dt) + 2.uz\ (duz/dt)$$

$$2\ u.\ a = 2.ux\ ax +2.uy\ ay + 2.uz\ az$$

$$u.\ a = ux\ ax + uy\ ay + uz\ az \quad \text{--------(B)}$$

from (A) & (B)

So, $Fx=y.\ mo.\ ax+y^3\ mo.\ (ux/c^2\}\ (ux\ ax+uy\ ay+uz\ az)$ ------(1)}

Now, Paradox:-

On frictionless platform, object is moving with constant velocity ux in X-direction & only magnetic force is acting in Y-direction & there is **acceleration in Y-direction only with velocity uy** & Fz=0

If we apply eq(1) to this case then result will be

$Fx= y^3$ mo. $(ux/c^2\}$ uy ay ---------- as ax=0

Or Fx=Fay as this force is form due to 'ay' only

Mean's even there is **no magnetic force** acting on object from outside in x-direction & no 'ax' then also **above force will act on object in +ve direction of x-axis due to 'ay'**

Important point (1):-

Mean's <u>applied magnetic force</u> on object in X-direction is 0 & <u>acting force</u> in X-direction is $Fx= y^3$ mo. $(ux/c^2\}$ uy ay+0 or Fay+0=Fay

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STEP 2:-Now, Force acting in X-direction is $Fx= y^3$ mo. $(ux/c^2\}$ uy ay or Fay

Now, after this happen, very small magnetic force of same intensity

-fx = -y^3 mo. $(ux/c^2\}$ uy ay or -Fay start **acting on object in direction opposite to above force (but velocity is still positive ux) & cancel that above force.**

Mean's equation (1) becomes

0=y. mo. ax+y^3 mo. $(ux/c^2\}$ (ux ax+uy ay)

Or 0 =y. mo ax. (1+ y^2 $\{ux^2/c^2\}$) +Fay

(Here as Fay= y^3 mo. $(ux/c^2\}$ uy ay)

Mean's Fay = y. mo. -ax. (1+ y^2. $\{ux^2/c^2\}$)

Mean's there must be acceleration in –ve X-direction to fulfill above equation of S.R.

Now, see above equation carefully, it is of nature

0= -fx + Fay

Important point (2):- Mean's <u>applied magnetic force</u> on object in X-direction is -fx & <u>acting force</u> in X-direction is -fx + Fay = 0 or 0.

Here, resultant force in X-direction is zero but there is acceleration.

STEP3:- same things happen for +ve force in X-direction (for less than Fay or more)

Now, I am generalizing above result.

Step 1 & 2 clearly shows that when we apply any magnetic force (Fmx) in X-direction on the object, actual force acting on object is more & that quantity is (Fmx+Fay)

Similarly,

If we apply any magnetic force (Fmy) in Y-direction on the object then actual force acting on object is more & that quantity is (Fmy+Fax)

This is completely complicated results, which says that applied force & acting forces on objects are different & more in S.R.

STEP4:- Force does work, consume energy, gain energy & we must know that energy cannot be created. It can be transferred only:-

From above setup it must be clear that energy get transfer from magnet to object but if applied force is less than acting force then energy gain by object will be more than energy loose by the magnet. Means due to more work done by more force for same displacement, more energy get generated.

HERE, more energy (& force) is the problem.

Where this additional energy (or force) does comes from?

There is no answer in S.R. for this problem.

THIS MATHEMATICS PROVES THAT THE S.R. IS COMPLETELY WRONG:-

In S.R., force is not related to change in the state of motion or acceleration as Newton consider but with change in moment.

So, even I move towards falling ball,

fx= y^3 mo. (ux/c^2} uy ay -------- this force will act on the ball.

If this mathematics is true then if old man pulls the cart on horizontal platform with force f and fx, fy are their components in X & Y direction respectively

Then above calculation says that actual forces acting on the cart are not fx, fy but

Fx=fx+ y^3 mo. (ux/c^2} uy ay = fx +Fmay

& Fy=fy+ y^3 mo. (uy/c^2} ux ax = fy +Fmax

This will create further problem because if F is actual force acting on the cart then

$F^2= Fx^2+Fy^2$

$F=(fx^2+fy^2+Fmax^2+Fmay^2+2 .fx. Fmay + 2 .fy. Fmax)^{0.5}$

So, here actual force acting cannot be equated to the sum of resultant force applied by old man i.e. f & resultant of additional force created by Fmay & Fmax.

CALCULATION 2 :- MATHEMATICS WHICH PROVES THAT CONSUMPTION OF ENERGY IN DOING WORK DECREASES AS RELATIVE FRAME VELOCITY INCREASES:-

$$F'_x = F_x - \frac{\frac{V}{c^2}\left(F_y v_y + F_z v_z\right)}{1 - \frac{V v_x}{c^2}}$$

$$F'_y = \frac{F_y}{\gamma\left(1 - \frac{V v_x}{c^2}\right)}$$

$$F'_z = \frac{F_z}{\gamma\left(1 - \frac{V v_x}{c^2}\right)}.$$

ARE TRANSFORMATION EQUATIONS OF FORCES IN S.R.

Let consider that old man A pull the cart B from pole 1 to Pole 2 on platform by standing at pole 2 with rope of length AB. Observers are on platform & in the train moving with velocity V then

1) When AB (displacement) parallel to the direction of train velocity.

Then, for observer on platform:-

so, Fy = F z = 0 , dx =L(AB)=length of rope which has to be pulled

Fx= tension in rope

& Work done W = Fx . dx ----------(1)

for observer on train :-

F'x = Fx – (v/c^2 . Fy. Uy)/(1-V .Ux/c^2) = Fx as Fy =0 by force transformation equation of S.R..

Here, as one meter in X- direction in S-frame is equal to 1/ γ meter in S'- frame in X-direction

& dx' =L(AB)' = dx/ γ where $\gamma = (1-V^2/C^2)^{-0.5}$

So, W' = F'x . dx' = Fx . dx/ γ = W/ γ

So, W' = W/ γ

Case 2 :- When AB perpendicular to velocity of train for observer on platform :-

$Fx = Fz = 0$ $dy = L(AB)$ & $dx = 0$

Fy= tension in rope

Work done $W = Fy.\ dy$

for observer in train :-

$F'y = (Fy/\gamma) / (1-V\ .Ux/c^2) = Fy/\gamma$ as $Ux=0$

& $dy'=dy$ as it is perpendicular to V & $dx' = dx/\gamma = 0$

Work done $W' = F'y.\ dy' = (Fy/\gamma)\ .\ dy = W/\gamma$

$W' = W/\gamma$

Case 3:-Consider that old man pull the cart on platform from pole 1 to pole 2 in any direction

Fx, Fy, dx, dy are tensional forces & rope get pulled on the platform in X & Y direction then

For observer on platform:-

Work done $W = Fx.dx + Fy\ dy$

For observer in train :-

$F'x = Fx - (v/c^2\ .\ Fy.\ Uy)/(1-V\ .Ux/c^2)$

$F'y = (Fy/\gamma) / (1-V\ .Ux/c^2)$ ---------from transformation equation.

$W' = F'x.dx' + F'y\ dy'$

$W' = \{Fx - (v/c^2\ .\ Fy.\ Uy)/(1-V\ .Ux/c^2)\}\ .dx' + \{(Fy/\gamma) / (1-V\ .Ux/c^2)\}\ .\ dy'$

Here, as one meter in X- direction in S-frame is equal to $1/\gamma$ meter in S'- frame in X-direction

So, $dx' = dx/\gamma$ & $dy'=dy$ &

If $m = (1-V\ .Ux/c^2)$ then

$W' = (1/[m.\ \gamma])\ .\{Fx\ .dx-(Fx.\ V/c^2\ .\ Ux.\ dx) - (Fy.\ v/c^2\ .\ Uy.\ dx) + Fy.dy\}$

$W'=(1/[m.\ \gamma])\ .\{Fx\ .dx(1-V\ .Ux/c^2) + Fy\ .\ (dy - v/c^2\ .\ Uy.\ dx)\}$

$W' = (1/[m.\ \gamma])\ .\{Fx\ .dx(1-V\ .Ux/c^2) + Fy\ .\ dt\ (Uy - v/c^2\ .\ Uy.\ Ux)\ \}$

$W' = (1/[m.\ \gamma])\ .\{Fx\ .dx.(1-V\ .Ux/c^2) + Fy\ .\ dt\ .Uy.\ (1-V\ .Ux/c^2)\ \}$

$W' = (m/[m.\ \gamma])\ .\{Fx\ .dx + Fy\ .\ dt\ .Uy\}$

$W' = (m/[m.y])\ .\{Fx\ .dx + Fy\ .\ dy\}$

$W' = 1/\ \gamma.\{Fx\ .dx + Fy\ .\ dy\} = 1/\ \gamma\ .\ W$

Or $W' = W/\ \gamma$

This clear shows that in all cases $W' = W/\ \gamma$

Means' $dE' = dE/\ \gamma$

This shows that as velocity V increases, energy consume in doing work decreases. This is against relativity because by mass & energy equivalence, energy has to be increase as mass increases.

We know that the definition of energy is the capacity of doing work. This proves that capacity of space holding energy decreases as frame velocity increases.

This happens because Force perpendicular to V decreases & space get contracted in direction of V.

CALCULATION 3:- ***Relativity is so wrong. It can be proves that there can be acceleration without force again.***

Example is given below

In prime frame, if Fz =0 & ratio Fx/Fy is equal to $(v/c^2\ .\ Uy)/(1-V\ .Ux/c^2)$ *then after transformation in S' frame F'x becomes F'x = 0 because*

$F'x = Fx - (v/c^2\ .\ Fy.\ Uy)/(1-V\ .Ux/c^2)$ *----transformation equation in relativity*

In frame S :- *Now, just consider that on magnetic substance on frictionless platform magnetic forces are acting in X-direction & in Y-direction. Magnetic* *force Fx is so adjusted by software program that ratio Fx/Fy is always equal to (v/c^2 . Uy)/(1-V .Ux/c^2).*

Then, Forces Fx (very small) & Fy in this frame will create acceleration ax & ay in direction x & y.

<u>Observer frame S' is moving with velocity V with relative to frame S then in frame S' :-</u>

There is acceleration in X' direction because ax'= ax/{r^3. (1-ux. v/c^2) ^{3} }

where r =1/(1-v^2/c^2) $^{0.5}$ but there is no force in X'- direction because

as F'x = Fx – (v/c^2 . Fy. Uy)/(1-V .Ux/c^2) & as

Fx/Fy=(v/c^2 . Uy)/(1-V .Ux/c^2)

So, F'x =0

Means, in this case in frame S' there is acceleration in X'-direction but no force is present in X'-direction.

Means, some ghost force will accelerate substance in direction X' in frame S'.

Can you call this as physics?

If Ux is more than V then in this frame there is +ve velocity & acceleration in X' & Y' direction.

In frame S', if I apply equation (1) i.e.

F'x=y. mo. ax'+y^3 mo. (ux'/c^2} (ux' ax'+uy' ay') ------(1)

These will gives completely opposite result which says that if ax' & ay' are in existence then F'x cannot be zero.

Means, one equation of S.R. says that this is possible & other equation says that this is just impossible.

These calculations 1,2 & 3 shows that special theory of relativity is wrong. In coming chapter, I discuss about other problems of special theory of relativity.

All mathematics given in this chapter & incoming chapter proves that S.R. is wrong.

Following are some points which are given by me about relativity have been discussed in coming chapters.

Point 1:-I personally think that General Relativity is right & not only big mass but every mass do have effect on the space around it.

Point 2:-I personally think that photon is just like other particle, express our kinetic energy with related to electromagnetic flux & gravity act on it. When it gets emitted from electron, its velocity C is getting express with relative to electromagnetic flux of atom. In intermolecular space, C get express with relative to electromagnetic flux of substance (as other free electron does), Photon is so sensitive that it express C with <u>relative to instrument by which you will try to measure it's velocity</u> as it is substance near to its proximity. So, at every time, if we measure, we get same velocity C in all directions.

If we consider only –ve electrons of any substance then there will be very high –ve flux will present around any substance but that flux is balanced by +ve flux of protons. So, balance very strong electromagnetic flux is present

around every substance & big mass in space. Photon & elementary particles express their velocity with related to that flux or gravity.

This is the reason for getting same velocity C on earth in all direction. (Other thing are discussed in coming chapter)

Point 3:- Not only photon but every substance express their constant velocity with related to flux act on it & it act as primary frame because if that substance try to accelerate with related to that flux that flux opposes that change in velocity. This creates the concept of inertial frame & acceleration. Other things are discuss in coming chapter.

I personally think that on earth, field around earth act as primary frame & if we accelerate with related to that then only it opposes that change & force will be created

$$Fx = y.\ mo.\ ax\ ,\quad Fy = y.mo.ay\ \&\ Fy = y.\ mo.\ az$$

Means, only change in state of motion in that direction require force in that direction. (Discuss in detail in coming chapter)

Point 3:- S.R. is not created by kinematics or relative velocity but due to property of flux or gravity of big mass acting on the substance.

Chapter B

INCONSISTANCY OF MASS IN RELATIVITY

Author was watching a foot ball match in a ground. Ball & players are moving all over the ground. Author stuck something different. In matter electrons & other particles are also moving randomly & vibrating all over the matter similar to players in the ground. (Similar to gas molecules in a box) This random velocity increases individual mass of particle; which increases total mass of matter.

When this matter moves with relative to other observer, mass of matter again increases due to relativity. Author considers that at the place of total matter if we consider each individual moving particles in matter & if we consider relative increase in mass of each particle individually & sum the all relative masses with relative to observer, we will get relative mass of matter A with relative to observer. Means, relative cumulative mass of each constituent of matter A is equal to the relative mass of matter A with relative to the observer. To calculate such individual mass of particles is impossible in real world. So, Author created similar situation.

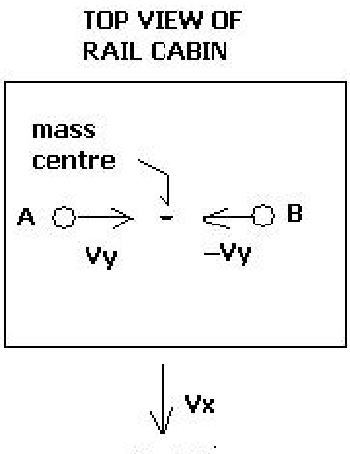


fig (1)

Consider cabin A of train moving with relative to the man on platform with velocity Vx. Consider at the centre of mass of cabin horizontal metal plank is fixed in such a way that this plank is perpendicular to velocity of train. On this plank two balls of same mass are moving in opposite directions with velocity Vy from same distance in such a way that centre of zero moment of cabin is same as centre of mass of cabin.

Part 1 :-

Let us, consider mass of each ball (at rest) = mb

Consider 'rest mass' of cabin A excluding two ball = mc

Then, Total rest mass of cabin including two balls,

$Mr = mc + 2 . mb . \{1/(1-Vy^2/C^2)^{0.5}\}$-------(1)

This mass will act at the centre of mass of train cabin which is also a point where summation of total moment of substances in cabin is zero.

When this cabin A moves with velocity Vx with relative to man on platform.

Mass of cabin with relative to man on platform = $Mr. \{1/(1-Vx^2/C^2)^{0.5}\}$

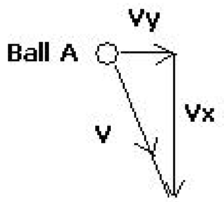
By equation (1) put value of Mr

Mass of cabin with relative to man on platform with two balls= $[mc + 2 . mb . \{1/(1-Vy^2/C^2)^{0.5}\}]. [1/(1-Vx^2/C^2)^{0.5}]$

$= mc . [1/(1-Vx^2/C^2)^{0.5}] + 2 . mb . [1/(1-Vy^2/C^2)^{0.5}]. [1/(1-Vx^2/C^2)^{0.5}]$

---equa (2)

Part II :- <u>Each individual moving matter is taken separately for man on platform.</u>



Vector diagram

Now, consider relative mass of balls & cabin separately with relative to man on platform.

Relative mass of only cabin= $mc . [1/(1-Vx^2/C^2)^{0.5}]$ ---------------------(a)

Velocity of each ball with relative to man on platform is sum of velocity Vx & Vy in perpendicular direction.

So, Relative velocity of ball with relative to observer on platform = $(Vx^2+Vy^2)^{0.5}$

Relative mass of each ball = $mb . [1/\{1-(Vx^2 +Vy^2)/C^2\}^{0.5}]$ ---------------------(b)

Total relative mass of cabin with balls =mass of cabin+2 x mass of individual ball

$$=eq(a) + 2\ eq(b)$$

$$= mc\ .\ [1/(1-Vx^2/C^2)^{0.5}]+2\ .\ mb\ .\ [1/\{1-(Vx^2 +Vy^2)/C^2\}^{0.5}] \quad \text{--------------(c)}$$

As eq(2) & eq(c) gives same mass of cabin with balls, so R.H.S. results can be equated

i.e. $mc\ .\ [1/(1-Vx^2/C^2)^{0.5}] + 2\ .\ mb\ .\ [1/(1-Vy^2/C^2)^{0.5}].\ [1/(1-Vx^2/C^2)^{0.5}] = mc\ .\ [1/(1-Vx^2/C^2)^{0.5}]+2\ .\ mb\ .\ [1/\{1-(Vx^2 +Vy^2)/C^2\}^{0.5}]$

$$[1/(1-Vy^2/C^2)^{0.5}].\ [1/(1-Vx2/C2)^{0.5}] = [1/\{1-(Vx2 +Vy2)/C2\}^{0.5}]$$

$$(1-Vy2/C2)^{0.5}.\ (1-Vx^2/C^2)^{0.5} = \{1-(Vx^2 +Vy^2)/C^2\}^{0.5}$$

$$(1-Vy^2/C^2)\ .\ (1-Vx^2/C^2) = \{1-(Vx^2 +Vy^2)/C^2\}$$

$$1- Vy^2/C^2-Vx^2/C^2+(Vy^2/C^2).(Vx^2/C^2)) =1-Vx^2/C^2-Vy^2/C^2$$

$$(Vy^2/C^2).(Vx^2/C^2)) =0$$

$$Vy^2.Vx^2 =0$$

$$Vy.Vx =0$$

But as Vy & Vx are not zero. Vx. Vy is not equal to zero.

So, L.H.S. is not equal to R.H.S.

This will create inconsistency.

Expansion of universe :-

1991, when Author was studying in Engineering College at Nanded. He met H.O.D. of Physics in science college, Nanded. During discussion H.O.D. said that distinct galaxies are accelerating away from us with velocity more than light. Author said that this is against theory of relativity.

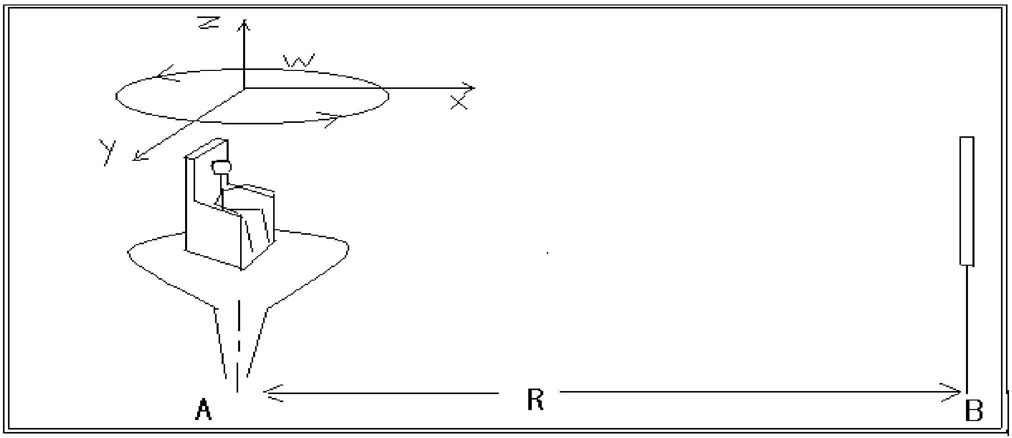
H.O.D. said," World is expanding & as space is expanding any two points in that space moves away from one another automatically. This is not forced acceleration."

Author said," As per big bang theory, the world started from point. Some substance moves so much distance away from one another due to expansion & some substance like distance between atoms in molecule remain at same distance. In any matter distance between two elementary particles remain at same distance. Now, we are on conveyor belt moving away from one another and to remain at same distance every particle has do work against this expansion motion continuously. If force of attraction between particles is responsible for this same distance then that force will have to do work against this expansion motion continuously & as this time, length

of this world is relatively infinite, whole energy of every elementary particle in universe has got exhausted by doing work against expansion of world until now & to keep near matter together."
H.O.D. just stopped & asked Author to meet next day, When Author met him he said, "There is dark energy that pull this galaxies away from one another."
Author said," then this is force acceleration. If dark energy exerts forces on galaxies & pulling it away from one another with velocity more than light then that is against relativity. & now only galaxial distance will increase which is the fact."
H.O.D. was relativity lover & get angry.
Author has seen same anger some time from relativity lover.

Chapter-C

RELATIVE VELOCITY CAN BE MORE THAN VELOCITY OF LIGHT?



Let us consider man is sitting on revolving chair at point A & one clock is fixed at point B. Then, man sitting on revolving chair sees that whole world is revolving around him and he himself is stable (same as in moving train, people fill they are stable and trees, houses are moving in opposite direction). Revolving frame of reference of man is shown in figure i.e. revolving about Z-axis. Then for that frame of reference, clock B will move in circle $X^2 + Y^2 = R^2$ and if W is angular velocity.(i.e. $W = 2\pi/T$)

Then linear velocity of clock at any instant will be

$V = R . W$ ------------------------(i.e. $V = 2. \pi. R/T$ = circumference of trace circle / T)

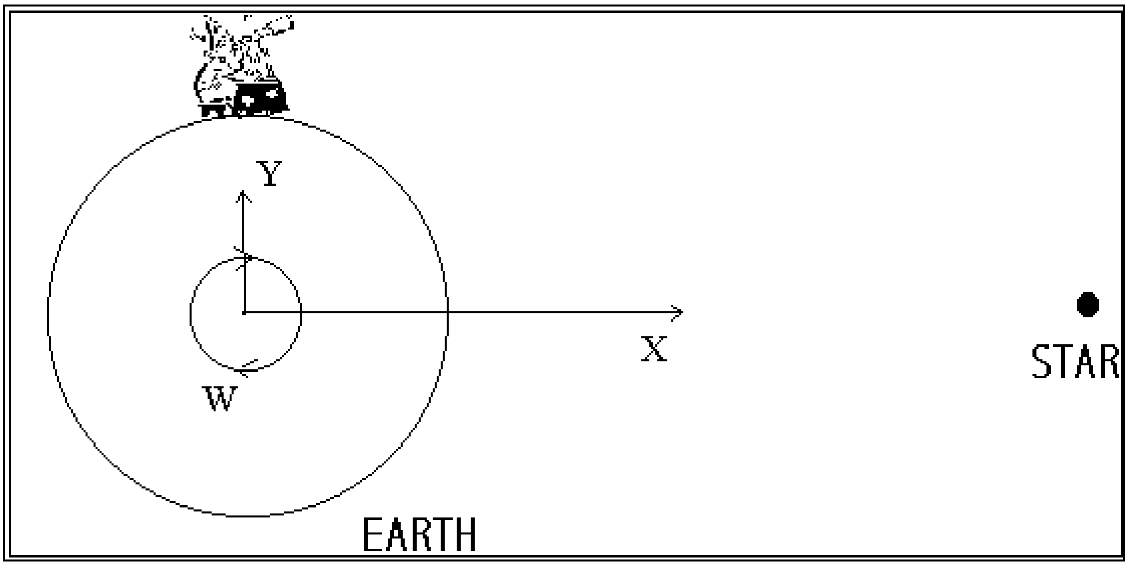
Consider, W = 1 rad / s

Then, V = R

But, R does not have any limit because it is distance. So, if R>C then V > C i.e. velocity of clock > velocity of light.

You may say that above calculation may be true, but this situation will not present in real life where some object have linear velocity more than light.

But, I say it is present in real life. Let us consider,



A man on the Earth, he himself is sitting on revolving frame of reference. Let us consider one star at distance R from revolving axis of earth then linear velocity of that star will be

V = R . W -------------------(1)

Here, W = 2. π / T = 2 x 3.14 / 24 x 60 x 60 = 7.26 x 10^{-5} radians per second.

We know nearest star on earth is at distance of 4 light years away i.e. R = 4 x 8 x 10^{8} x 60 x 60 x 24 x 365

Therefore, for nearest star.

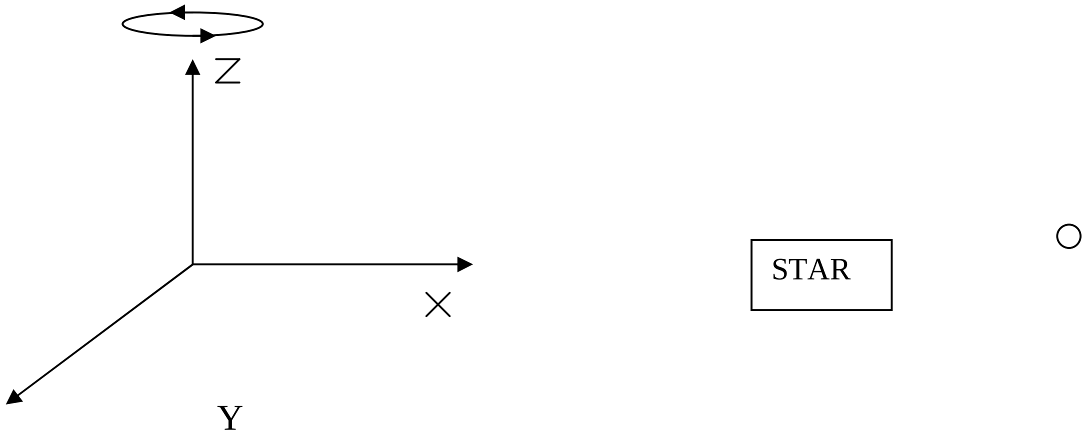
V = 7.326 x 10^{12} m/s > C

This equation clearly indicate that even nearest star is moving with velocity 9000 times more, than velocity of light in reference frame which fixed on revolving earth.

This clearly shows that, the stars which you see in the sky above equator moving from East to West having linear velocity more than C relative to man on revolving earth.

When I was learning relativity. One of my teacher was teaching relativity, said that velocity of light is ultimate. No other matter has relative velocity equal to light or more than light.

I asked if any object's velocity is increased to that limit then what would happen? He says that velocity of object, suppose train will increase with relative to you. You will find that its length will be decreasing and if velocity reaches to velocity of light, its length will be zero i.e. train will be invisible. If its velocity becomes more than C (light velocity) its length becomes complex (unexplainable) i.e. its view will be unexplainable.



But here if co-ordinate of Star (in reference frame revolving with the earth and revolving axis is its Z-axis as shown in figure & distance of Star from revolving axis is 4 light year i.e. distance of nearest Star) is (X, Y, Z) = (4 light year, 0, 0).

Then after every 6 hours its co-ordinates will be (0, 4 light year, 0), (- 4 light year, 0, 0), (0, - 4 light year, 0) and after 24 hours its co-ordinate will be again (4 light year, 0, 0).

Means, for this frame of reference in 24 hours Star will move in distance equal to 2π (4 light year) and its velocity is 7.326×10^{12} m/s i.e. 9000 times more than light velocity C.

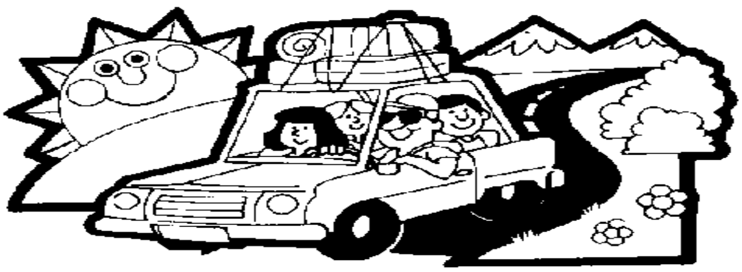
Means, for man on the earth every star is moving with velocity more than light velocity. But also, we can see stars.

If relativity is true then matter moving with velocity more than light velocity with relative to you should not be seen by you but it would be seen some thing complex. Also time on that object become complex so event on stars should not be seen by you.

But we can see star moving with velocity more than C (light velocity) with relative to us from East to West every day. Means Relativity’s basic concept i.e. ‘velocity of light is ultimate is wrong.’ Now, in laboratory we can accelerate apparent pulse of light with velocity more than C.

I did not believe in relativity. From the first day I have started learning relativity.

Some says that this revolving frame is non inertial frame of reference. I answer that in next chapter.



CHAPTER D

ABSOLUTE INERTIAL REFERENCE FRAME IS A RELATIVISTIC CONCEPT

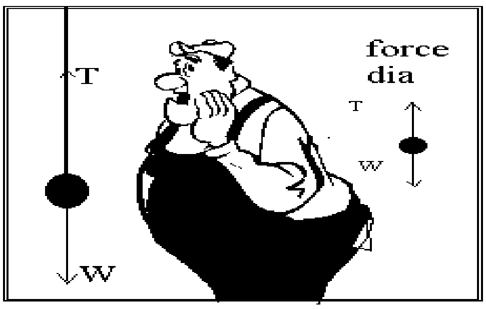
In this world, on every object many forces are acting like magnetic, charge, gravitational, which gives out other forces like frictional, cohesive etc. In Einstein's relativity, inertial frame of reference is important. In inertial frame of reference no external force is acting on matter, so acceleration is absent. This is wrong assumption; some force is always acting on every substance. Only some time we feel no force is acting and we are in inertial frame of reference but why such thing happens. I answer to this question below.

When I see this nature. I find one very interesting thing i.e. resultant force acting on each body is zero.

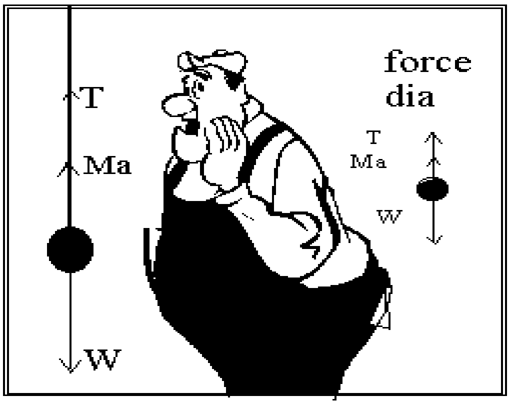
i.e. summation of electrical, magnetic, gravitational, frictional, cohesive, directly applied force or force due to acceleration = 0

You may take anybody. We see that this thing is correct. For example, consider a ball of mass M is hanging to the roof of cabin as shown in figure. Then, in this case two forces are acting on the ball. One is its own weight acting in downward direction. [As shown in figure] and other is tension in upward direction.

So, T – W = 0 ------------------[1]

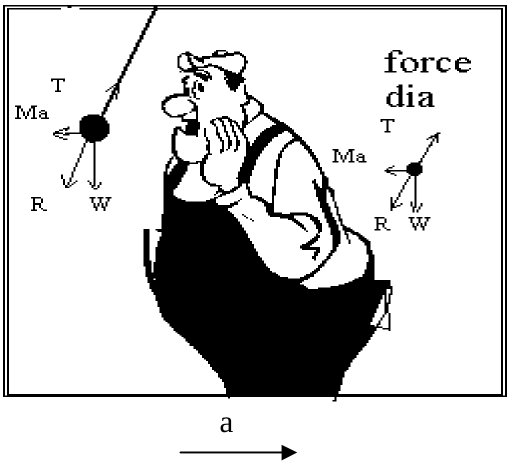


SECOND CASE: - Now, consider cabin is accelerating downward towards earth by acceleration a. Then, we fill that weight of ball decreases. Because, here accelerating force is acting with tension.



W = M a + T
W – M.a – T = 0
i.e. resultant force = 0 ---------------[2]

THIRD CASE: - now consider that cabin is accelerating horizontally by acceleration a then



T = R [R is the resultant of M a and W]
i.e. R – T = 0
i.e. resultant force = 0 ----------------[3]

These all three considerations and other considerations like any substance place on earth surface or any rocket or any satellite or earth itself.

Every time we will find total resultant force acting on each matter in the world is zero.

We feel the weight of body only when frictional force, tensional and compression likes other material forces, cohesive force act on the body with other forces.

Why does anybody accelerate?

We know on each body
Total resultant force = 0

i.e. forces are well balance but as any new force act on body. This balance state of forces must get disturb & it will accelerate in direction of that new force & again force of acceleration will form which will balance this new force.

i.e. new force = (acceleration a) M

(Acceleration with relative to first state)

So, new force = M.a

OR

I express it in another way.

Any body in the world accelerates with relative to previous state when any new force act on body. Only to balance this new force.

OR

To make resultant force i.e. F = 0
Acceleration takes place in world.

(For every action there is equal & opposite reaction--- By Newton)

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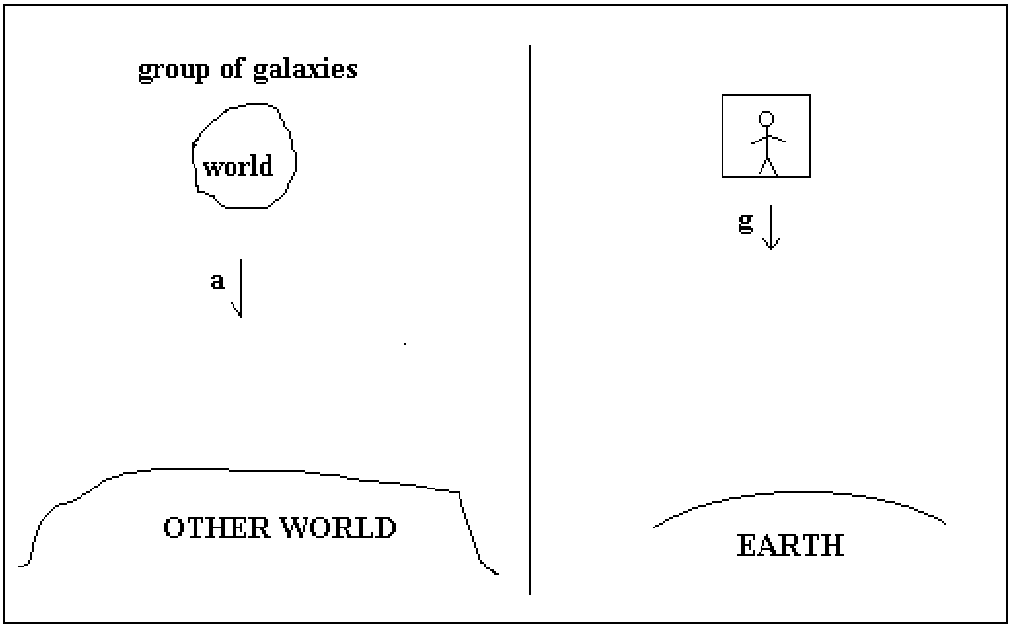
IS THIS WORLD UNIQUE IN THIS SPACE?

Is this world unique in this space? We can't answer this question exactly but as space is spread beyond our thoughts and reach (till now).

There may be any other big world also in this space. Now consider (this world may have any shape as shown in fig) one more big world is present in this mega world. What will happen? Due to its gravity, this our world must get accelerate towards this big world. (Also big world towards our world)



Then what will be the effect of this acceleration of our world on stars or planets?

For this, consider a man in totally closed cabin (completely) falling freely towards earth, under earth gravity. As man is in totally closed cabin and no light inside it, **Man feels that no force is acting on him (weightless) and he see a dark back space all around him.** If you ask any thing about him, he will say, "I am in big dark space no force is acting on me, I am stable."

Means, this acceleration of cabin or world with relative to earth or any other world will not affect the stableness of object (object may be man or star or any) in side cabin or world respectively. (As in free acceleration, acting force is balanced by accelerating force.)

This shows that absolute acceleration or absolute stableness, these considerations are totally wrong. (Above thing may be happening in this space but limit of man is much small. Other worlds may be present in space and as before centuries we was saying our galaxy is only world. Now, we are saying our world is only the world. Tomorrow we may say our world is the part of mega world.) Because acceleration motion is totally relativistic concept. Even world may be accelerating with other world (or any galaxy with other galaxy.) but this acceleration will not cause any effect inside the world. So, we can consider that the world as stable but with relative to us only not absolutely.

After this discussion this become very clear that absolute inertial frame of reference is not present in the world.