

Relativity

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Preface

Relativity we can see in movies in few paradoxes, a person can come back to where he was and see himself working there alongside him.

Then we have kind of time machines , transponder has a separate book for itself and now this separate book on General Relativity.

Why rajat kalia didn't teach much relativity to students in his lifetime is coz he expects his student to be completely verse in the subject because otherwise he/she won't be able to understand what's being taught. Relativity is one of the most expert topics and requires great versatility in physics subject itself before a student deserves to learn it from rajat kalia ji. However he made radio broadcast many times of complete relativity in greatest details totally unimaginable to our level.

Favourite comments include one student Shashank(divya-later neha kalia[Kaur B/Anupam Kher] with SC Certificate) claiming that some particles can move faster than light . Probably he meant that in his visions he has seen some people moving faster than the speed of light. Probably he got inspired by the movie scenes in movies like star trek where you see wonderfull application of a transponder. I think for performing that kind of scene you need to read that book. It's avaiable freely in web resources or you can even buy a copy if you want to be the actor in that movie. It's a previous book written in Rajat Kalia's living time and well recieved with a Quake III transponder picture on it's cover. We won't be disucssing transponder at all in this book and look into crude numerical problems just to limit vague imagination and stay in actual limits of physics.

I tell you why transponder is not relativity, answer is just check the name of that transponder book to know what it really is. Here my job is to teach relativity , but there's this constant projector bug problem that some arses are demanding to teach transponder. I mean there's already a book on it why should i teach it here, the mechanism is written in thayt book. Then there would be that photo's indian and foreign actors having sex with whom one can perform that stunt in the movie, that person would have actual trasponder unlike the indian actor. Then see the name on the book on whose name that book is that is the actual person in rajat kalia's family who is the owner of transponder¹. That book has been written by Rajat Kalia so he's the actual

¹If transponder photo was put(by Rajat Kalia) on any other book of Rajat Kalia(his own

owner without doubt. Then there would be few foreign actors who would be the thumbnail image here and indian actors who would be the enlarged image and mind you indian actor is a villain. Further i would like to assure once again that transponder is not relativity. Read that book's title name so that you can know what are the detailed mechanisms of Transponder. I tell the name "A Complete Course in Commercial and Social Sciences (including Vocabulary and Language) - Extended Third Edition" "Kairav Kalia, Kiki Boyal, Dharti Putram" These are the concerned people in whose name Rajat Kalia has written this book. and the book is on commerce for social science students. Manas Kalia is the actual title author name with transponder shown in image.

book) also , then check it's details as well to know who are the concerned people.

Acknowledgements

Now if the transponder movie actors kindly excuse me on projector then i can start with relativity theory and problems.

The reason i'd like to repeat why Rajat Kalia din't teach it in class coz no student was verse in it. Otherwise Rajat Kalia would have taught to that student alone if there was such a student. Radio broadcast he had done many times in childhood and was for normal shrotagans. Arvind Chauhan teaches from Rajat Kalia's notes or the problems he solved while preparing for iit or while teaching. It's a useless argument that Arvind Chauhan tried to teach relativity to Rajat Kalia after reading from Rajat Kalia's documents coz that is already available in videos, whatever he could read from Rajat Kalia's documents and understand he has shown it in his lectures. And mind you they were 134 Actors. So if one single guy or few could teach relativity amongst them and has taught it's shown in channel 112 videos already. But then even if they mattered , they were only basics, we'd go much deeper and assure full returns. Further I am Xpinder Narula, Rajat Kalia's foreign actor and Indian hacked account actors are no worth to me at all. Now if the back house aunty pleads that she is the actual indian actor and not a hacked account one , I remind that in India your pigs were looming around Rajat Kalia to tell him that you are the actual Rajat Kalia and not him, that's why I am concerned.

0.1 High Speed Button in a Star War Rocket

They are using warm holes technology only don't worry but it's appearing in stunt form that's why looking catchy FYI. In 5th or 6th movie Luke Skywalker shows Returned Jedi the fast speed button. Also the Rajat Kaliia robot tweaks in the rocket to start fast speed in another star wars movie. Evidently they din't use high speed or anything but only warm holes but with stunt technology which can be much superior to actual warmhole method used in normal movies.

Chapter 1

Relativity Theory Basic

Relativistic mechanics deals with motion of objects moving at speeds of the order of light where possibly the laws of classical mechanics can snap at some place or the other. So Relativistic mechanics is only mechanics theory but at very high speeds. Now another dumbshell Shekhar Dutt is asking on projector how could devtas travel the universes at even much higher speeds. My answer to that dumbo, that is in spiritual domain only, one can shift the soul from heart to liver with a piercing prick in 10 to 15 seconds . you can calculate the speed here, 1 feet in 15 seconds or roughly 2 inches/second and that's much lesser than the speed of light , however with all the drugs it can appear much larger than the speed of light to Shekhar Dutt. { I must repeat that soul is a spherical object with risnia outer coating solidified to like bullet proof glass density with technology and coke cocentrate inside It is put using an injection inside a person, some people can have more than 1 of them.. However if a person is consuming Red Bull or other drink, soul would have that color concentrate inside }We are talking in Physical Domain and not in Spiritual Domain or mechanical domain where the constuction of universes is different. There are further three sound domains similar to these which Rajat Kalia didn't delve much in and mostly closed their workings so that unnessary loads on our SYSTEM doesn't mount up. Probably they are handled by harappa and it appears as an additional feature in our SYSTEM. While they probably might be calling our features sound handling in their own language. So, let's not worry about those things. Further to spoil things further, Sonia Sood(Today's Manish Kalia) has stolen the lan cable and put a duplicate lan cable in it's place. He is saying that put on the wi-fi jacks even if you are connecting through lan to internet just like the amazon.com football goal copyright of ghoda. Now it's a question who goes for the talk and whether he heeds or not to the demand remains to be seen. If those arses(aarav soods) are succussfull then there would be an additional wi-fi device necessacity even if a person is connecting internet via lan . I think those talks would happen today. One of the arses(who is Kairav(Krishnan)) is encountering the problem that end of cycle audit is coming near and that can make him very very poor compared to what he is these days. We can only offer wishes/good

health/good luck to him, don't worry kiddo, good time will come again without doubt, have faith in your uncle Rajat Kalia.

1.1 Theory

Here we'll stay fixed on relativistic speeds, i.e. speeds of the order of the speed of light. Or very high speeds.

Here we have two similar to river crossing question scenarios studied in Kinematics. Let's have a fast gothrough.

So we fix a frame of reference to a 1-D rod and a second frame of reference a fixed point in space. Then we go with the like river travel question studied in kinematics.

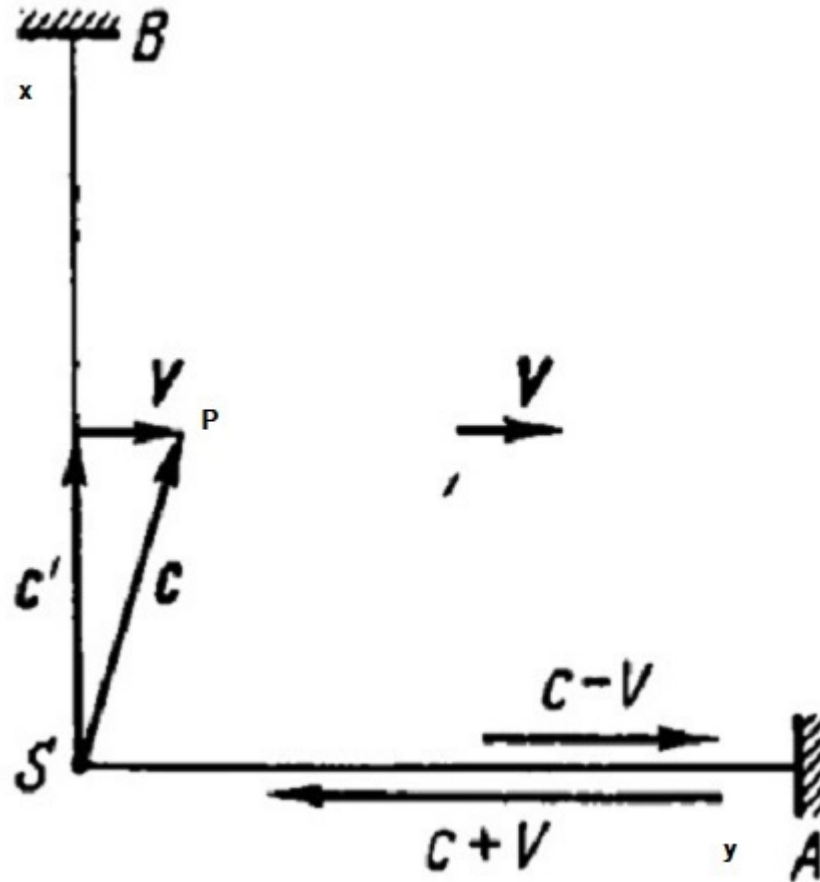
So here our x-axis is along the rod and the y-axis is perpendicular to it going through that fixed point in space.

{Another stupid manish is asking why space why not a point on earth. My answer "Dumbo we are studying ideal case. We study physics for studying ideal case not for imaginary cases imagined by a dumbass pakoda. Studying ideal case takes a lifetime of learning, can't be learned in minutes. Do you know how much error case you are talking about by talking about an earth reference point. Evidently it can't be solved using physics and you would have to go to step coz you have written in your book that you are taking earth as reference. Evidently it would need earth's coriolis rotations then sun's galactic rotations into consideration and coz you have written it in pdf that you are calculating it it would amount to a step to make you forget that thing and work on new thing. The calculations you have shown are only ideal case which you might have studied or probably created, but this earth reference is a serious error and this is not physics mostly probably coz you didn't learn the subject properly and Rajat Kalia has already written in his book what you are trying to do, watch the "Error with Errorlog" book for yourself. It's a penis chopping procedure which your team creates by providing wrong data instead of right. Hahaha this book has plenty of those penis chopping diagrams" }

So we have light moving from the rod to that fixed point (in space) and that object is translating towards that fixed point. Assume a light photon went from the rod to that fixed point. We choose the origin at a point where the

¹Now another Manish Kalia actor is trying to prove in relativity that lengths don't change. He has seen in Ramayan that Lakshman's wife returns to earth travelling in space and is much taller. So, I think this has made a kind of impression in his mind that space travel changes height/length of object. In that case I definitely assure that relativity is purely a modern thing of computer age, not in spiritual domain sagas like Ramayan which are not played in physical domain of the world but in relatively stripped down other kind of domain called the spiritual domain. Secondly Lakshman's wife was already that height when she started the space travel. It was their relative height difference that was in question. I tell the answer, all of you have seen Baba Balakrishna, it was the response of that with girl higher height than man, not a height change due to space travel. Further you also might have seen Pooja Shetty's videos also, so watch it, relativity is modern science, not dream stuff.

perpendicular from that point in space falls on the rod. That point becomes a point on the y axis(say) and the rod is on the x-axis with our chosen origin.



Now we talk about the relativity concern in the y direction. We want a relativistic frame of reference so let's assume that this whole stuff(our frame) is moving in some other frame(Frame 2) as well with a relativistic speed v parallel to y axis. Now from origin if a photon goes towards that fixed point according to Frame 2 it would move with $c - v$ going in positive y direction forward and $c + v$ while returning(as shown in the figure). So, it would take time $\frac{2cy}{c^2 - v^2} \dots (1)$ (similar to the first problem of Irodov or boat upstream downstream travel questions done in 9th mathematics)

Now let's look at the second case. Here we see that for a point x, the Frame 2 would have moved a distance vt_o forward if the photon from origin hits a point x on x-axis in frame 1 along the y direction(that point is P now). Just like the river drift question we need to send the photon to slightly right so that it travels along x axis and then comes back. (By Pythagoras law, in the velocity triangle

diagram, just like the drift question in first irodov chapter.). You see i try to explain the things if it's difficult. The frame is moving with speed v along y axis so everything, even a light photon is getting dragged backward(towards $-y$) so we need to throw the photon at an angle so that it goes along x axis instead. got it??? So the photon's speed now is $\sqrt{c^2 - v^2}$, you can see in the velocity triangle diagram. So the total travel time along x axis is $\frac{2x_o}{\sqrt{c^2 - v^2}}....(2)$

Here we introduce a special constant β (beta) as the ratio of speed of the frame of reference to that of speed of light.

1.2 Review Questions

Problem 1 : Now the first problem of irodov, if you want the full question to be written i'd write it here.

A rod moves lengthwise with a constant velocity v relative to the inertial reference frame K . At what value of v will the length of the rod in this frame be $\eta = 0.5\%$ less than its proper length?

I have put this very question, just to assure that the question is correct but i've said in the above discussion that length doesn't change doesn't need to be proved.. But here we have a question how much length changes. Here you might have got it till now that what he means is that how much length change is appearing to your eyes or vision, and not any actual length change. Seeing is believing kind of stuff. Apply the 2nd formula to get the answer. I think if we start discussing this kind of questions here it can reduce the trp rating of the book.

1.3 Mass Concerns in Relativity

Use the 2nd formula assuming that we are working along x axis if your teacher is insisting to do so. Or else if you want to write a research paper make actual calculations working in x and y directions.