

# Re: Another Rotating Cylinder Problem – explain from moving frame view

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*Source:* <http://sci.tech–archive.net/Archive/sci.physics.relativity/2006–04/msg01441.html>

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- *From:* sal <[pragmatist@xxxxxxxxxxx](mailto:pragmatist@xxxxxxxxxxx)>
  - *Date:* Wed, 19 Apr 2006 15:35:23 –0400
- 

On Tue, 18 Apr 2006 01:59:20 +0000, David wrote:

On Mon, 17 Apr 2006 11:17:38 –0400, sal <[pragmatist@xxxxxxxxxxx](mailto:pragmatist@xxxxxxxxxxx)> wrote:

On Mon, 17 Apr 2006 03:16:54 +0000, David wrote:

On Sat, 15 Apr 2006 11:02:17 +0100, "Martin Hogbin"  
<[goatREMOVETHIS123@xxxxxxxxxxx](mailto:goatREMOVETHIS123@xxxxxxxxxxx)> wrote:

"David" <[dseppala@xxxxxxxxxxxxxxxx](mailto:dseppala@xxxxxxxxxxxxxxxx)> wrote  
in message  
[news:27814211vufjvsa14pmj5fnvk52d3mutdd@xxxxxxxxxxx](mailto:news:27814211vufjvsa14pmj5fnvk52d3mutdd@xxxxxxxxxxx)

On Fri, 14 Apr 2006  
18:29:50 +0100, "Martin  
Hogbin"  
<[goatREMOVETHIS123@xxxxxxxxxxx](mailto:goatREMOVETHIS123@xxxxxxxxxxx)>  
wrote:

"David"  
<[dseppala@xxxxxxxxxxxxxxxx](mailto:dseppala@xxxxxxxxxxxxxxxx)>  
wrote in  
message  
[news:5e5v32hhd167p57ikjfcvnm82o1thjecu@xxxxxxxxxxx](mailto:news:5e5v32hhd167p57ikjfcvnm82o1thjecu@xxxxxxxxxxx)

Can  
anyone  
explain  
this  
rotating  
disk

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problem  
from  
the  
point  
of  
view  
of  
a  
moving  
observer?

Davis  
Seppala is  
one of the  
mysteries of  
this group.  
Unlike  
Spaceman,  
for  
example, he  
is smart  
enough to  
dream up  
endless  
SR puzzles,  
many of  
them  
involving  
accelerating  
reference  
frames, yet  
by his own  
admission  
he has  
practically  
no  
understanding  
of SR.

Is he really  
an expert on  
the subject  
testing  
posters'  
understanding?

Is he a  
bunch of  
psychology  
students

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performing  
some kind  
of  
experiment  
on us all?

Is he just a  
troll who  
delights in  
stirring up  
discussion  
and  
argument?

Any  
suggestions?

He is none of the above.  
David's understanding of  
Einstein's  
notions so far is much like  
David's comprehension of  
E. M. Escher's drawings. He  
gets to points in problems  
where  
there seems to be  
contradictory results as in  
his posting on  
4/10/2006 where a moving  
rigid rod is always parallel  
to the  
x-axis and loops about the  
x-axis in a circular pattern  
at a 10  
meter diameter circle yet no  
forces are applied to the rod  
to  
make it continue in this  
circular pattern. Or in this  
posting  
where as tension on a  
straight wire increases the  
center of the  
wire moves away from a  
straight line. This is  
opposite to  
typical experiences – wires  
form straight lines when  
stretched

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from two points with  
nothing in between them to  
interfere with  
the straight line. This does  
not make sense to David.

Then what David should do, as he has been  
told many times, is to  
make sure he fully understands basic SR \_in  
inertial frames\_ with  
only \_inertial motion\_ involved.

If he could demonstrate a sound  
understanding of Einstein's  
postulates,

I cannot demonstrate a clear "understanding" of Einstein's  
postulates.  
I know the two main hypotheses stated in relativity are that  
all  
physical laws are the same in any given inertial reference  
frame and  
that the speed of light is constant and independent of the  
motion of  
the emitting source.  
The translated text I read actually used the word "velocity"  
of light  
instead of speed. We all know the velocity of light (speed  
and  
direction) must vary with the motion of the light source but  
the speed  
can possibly be constant. Although stated as a definition and  
not as  
a hypothesis Einstein states that "time" at two points cannot  
be  
defined at all unless the "time" required to travel from A to B  
equals  
the "time" required to travel from B to A. I readily admit that  
this  
statement of time that Einstein characterizes as "true by  
definition"  
seems to me more like a hypothesis than something true by  
definition.

what an inertial frame is,

An inertial frame is one in which no accelerations or higher  
order  
changes in position of objects occur. In a real sense we do  
not

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find inertial frames except in rare situations since any kind of motion causes the frame to accelerate slightly. But these are negligible in a practical sense.

the train experiment,

I'm not certain which train experiment you are referring to. To demonstrate that one inertial frame is identical to every other frame there is a real life experiment where the acceleration of a train is so small that passengers on either of two trains cannot easily tell which train is moving out of the station or not. This is not much of a physics experiment since it merely demonstrates lack of needed sensitivity in measuring devices, so I don't know if this is the experiment you are referring to or not.

and the pole and barn paradox the others would be much more willing to help him.

The pole and barn paradox. What am I supposed to do here? Plug in values in the time and length separation formulas to show in one inertial frame where the two door closings are simultaneous and the pole just fits gives values that in another inertial frame the two doors open and close at different times and this is compensated precisely by the length contraction?

Yes, this would be a great start. Actually do the calculation and post the result, thus demonstrating that you've gotten to first base.

You frequently request others to post calculations for you. Do one yourself, and post it.

If you already understand it, it won't be hard to do and won't take much time. If you don't already understand it, you'll actually learn something useful from it. So, the exercise will be either easy or valuable (or both) and it'll impress everybody who's currently throwing tomatoes at you, and give you a chance to say "See I told you all along I understood (at least) this much of it!".

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So, yeah, do it, Dave!

[David said:]

I don't know how to search for archived threads and my reader/service only shows the past 30 days or so, so I can't get the full thread to post as a reference for you. David

Aha, this comment explains a lot.

Two things.

a) If your news service has retention extending back just 30 days, chances are it's missing a lot of messages right from the start, as well; that may be why you don't always see them.

SO.... you should use Google Groups to see the full set of messages (because they're more reliable than your usual news server), and if you want to be sure everybody sees what you post, you should post through Google as well.

b) You can access archived messages for (at least) several years through Google. You've been given a couple links but maybe you need something more. Here's a link + some directions:

Go here:

[http://groups.google.com/advanced\\_search](http://groups.google.com/advanced_search)

Enter "sci.physics.relativity" in the "Group" field

Enter words from the subject, in the "Subject" field

Enter the Author if you want.

Then click the UPPER "Google Search" button (the one at the page bottom which says "Lookup Message" is only for message ID searches).

Once you get a message whose thread you're interested in from the search results, go to the top of the web page, find the link "view as tree" just below the bold-faced topic header, and click it. That will give you the whole thread.

And that's that.

[And David said:]

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Actually in the train problem I posted you said to show some numbers so I did and you did not reply.

If you mean the "rubber train" problem ... If I recall correctly, I asked you to show, mathematically, that you could build a train that could be stretched arbitrarily (like, to 10x its original length, maybe?) without breaking, yet which would collapse if one additional passenger stepped on board. As far as I can recall you made no attempt to do so, but just asserted that you could. Since I very much doubt that it's even possible, showing it seems important.

You also seemed to have lost track of whether you had the front and back of the train glued together or not, and you never clarified that.

Frankly, that problem was pretty ridiculous, and I was kind of losing interest anyway. However, if you think you showed that it made sense, post a link to the message, but I don't recall ever seeing any calculations from you on that one, just assertions.

[David:]

In the battery problem I posted my explanation Harald

You replied to Harald, but you ignored my last reply to you on the battery problem, which problem is actually a lot more interesting than the rubber train, IMHO.

Maybe you didn't see it. You should, again, use Google if you really want to know whether someone replied to you or not. They seem to be well-connected to the whole web; they hardly ever drop messages.

replied saying he found my error but it appeared he mis-interpreted what I had said. So I clarified the response and he no longer replied.

Maybe you want me to plug in the length contraction, and then add the product of the time difference &  $V$  (distance traveled) to see if I get the correct number. This only demonstrates an understanding of algebra.

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I should point out that is no good his saying,  
'Yes, yes, yes, I  
know all that', he must clearly demonstrate  
that he fully  
understands basic SR before anyone will  
accept that his questions  
are serious.

I suspect this posting still won't result in any physics answers  
to my  
two cylinder questions I posted – this one and the one  
4/10/2006. But  
we'll see.  
David

Will he make a concerted effort to  
understand the basics and show  
that he has done so or will he continue as  
before? We shall see.

Martin Hogbin

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Nospam becomes physicsinsights to fix the email  
I can be also contacted through <http://www.physicsinsights.org>

\*\*\* Posted via a free Usenet account from <http://www.teranews.com> \*\*\*

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