

Re: The real twin paradox.

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2007-11/msg01464.html>

- *From:* "harry" <harald.vanlintelButNotThis@xxxxxxx>
 - *Date:* Thu, 22 Nov 2007 11:16:30 +0100
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"colp" <colp@xxxxxxxxxxxxxx> wrote in message
news:45e50819-65f6-46a3-a821-5c3698dd146a@xx

On Nov 21, 11:40 pm, "Dirk Van de moortel" <dirkvandemoor...@ThankS-NO-SperM.hotmail.com> wrote:

"colp" <c...@xxxxxxxxxxxxxx> wrote in
messagenews:06b84031-18aa-4644-bfb7-43f49f46ae6a@xx

This thought experiment is like the classic twin paradox, but in this experiment both twins leave earth and travel symmetric return trips in opposite directions.

Since the paths taken by the twins in this experiment are symmetric, they must be the same age when they meet on their return to earth.

In this experiment the twins maintain constant observation of each other's clocks, from when they depart until they return and find that their clocks tell the same time.

Special relativity says that each twin must observe that the other's clock is running slow, and at no time does special relativity allow for an observation which shows that the other clock is running fast.

Re: The real twin paradox.

No, special relativity says much more precise than that "moving clocks" are running slow.

The Lorentz–Fitzgerald transform is more precise than my description, but that doesn't mean that my description is wrong.

It says something about inertial observers who measure times between ticks on remote, moving clocks.

When your two clocks fly apart, each clock will measure this time to be longer and conclude that the other clock is "running slower".

While clock A is coasting, according to clock A, each tick on clock A is simultaneous with some tick on clock B with a smaller time value.

While clock B is coasting, according to clock B, each tick on clock B is simultaneous with some tick on clock A with a smaller time value.

Yes, that is the standard theory.

After clock A has made its turnaround, it has shifted to another inertial frame, in which according to clock A, each tick on clock A is simultaneous with some tick on clock B with a larger time value.

After clock B has made its turnaround, it has shifted to another inertial frame, in which according to clock B, each tick on clock B is simultaneous with some tick on clock A with a larger time value.

Wrong. The other clock tick is still observed to have a smaller time value.

This is because in the Lorentz–Fitzgerald transform the relative velocity term is squared, making the the issue of the clocks separating vs the clocks approaching irrelevant to the amount of time dilation.

http://en.wikipedia.org/wiki/Time_dilation

That is indeed irrelevant but you are still mistaken because time dilation is ALSO irrelevant at the instant of switching reference frames. Try: http://en.wikipedia.org/wiki/Relativity_of_simultaneity

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Harald

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