

Re: Rel. Speed

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2007-06/msg03331.html>

- *From:* "razyrel" <razyrel@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 28 Jun 2007 06:33:13 +0200
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"N:dlzc D:aol T:com (dlzc)" <dlzc@xxxxxxx> wrote in message
[news:77Fgi.446660\\$7g3.64071@xxxxxxxxxxxxxxxx](news:77Fgi.446660$7g3.64071@xxxxxxxxxxxxxxxx)

Dear razyrel:

"razyrel" <razyrel@xxxxxxxxxxxxxxxxxxxx> wrote

Suppose a spaceship is moving at a constant speed of $0.8c$.
Then the ship sends a pulse of light to the same direction
as of the ship.

Questions:

a) Will the speed of this pulse of light be c or $c-0.8=0.2c$?

The ship would measure it as c . A stationary observer would
measure it as travelling at c . The only possible light speed
measurements require a two-way light path (of one form or
another).

b) How is it to interpret from the ship's frame of reference?

c. Always c .

c) How is it to interpret from the frame of reference of a
stationary viewer

c. Always c .

who is in a distance at a right angle parallel to the ships
route when the light knob was pushed?

c. Always c .

Re: Rel. Speed

<http://hermes.physics.adelaide.edu.au/~dkoks/Faq/>

<http://hermes.physics.adelaide.edu.au/~dkoks/Faq/Relativity/SpeedOfLight/headlights.html>

Ok, then

how is the situation in the following extension of the above experiment:

the ship shoots a torpedo that has an instant speed of $0.4c$, into the front direction of the ship, and a second one of the same kind to the rear direction; both shot exactly at the same time (ie. at the same location) as in the scenario above.

How far away, relative to the stationary observer, will each of these torpedos be after 10 seconds (in c units)?

Is it $0.4 \cdot 10 = 4c$ for both torpedos, or will they differ?

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