Re: Basic Relativity Question from a Beginner

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2008−05/msg01771.html

- *From*: Albertito <albertito1992@xxxxxxxxx>
- *Date*: Thu, 29 May 2008 07:08:07 −0700 (PDT)

On May 29, 2:30 pm, PD <TheDraperFam...@xxxxxxxxx> wrote:

> On May 29, 8:07 am, Albertito <albertito1...@xxxxxxxxx> wrote:
>
> > On May 29, 1:49 pm, PD <TheDraperFam...@xxxxxxxxx> wrote:
> >
> > > On May 29, 7:35 am, Albertito <albertito1...@xxxxxxxxx> wrote:
> > >
> > > > On May 29, 1:15 pm, PD <TheDraperFam...@xxxxxxxxx> wrote:
> > > >
> > > > > On May 29, 7:05 am, Albertito <albertito1...@xxxxxxxxx> wrote:
> > > > >
> > > > > > On May 29, 12:59 pm, PD <TheDraperFam...@xxxxxxxxx> wrote:
> > > > > >
> > > > > > > On May

6:48
am,
Albertito
<albertito1...@xxxxxxxxx>
wrote:

On
May
29,
12:10
pm,
"Dirk
Van
de
moortel"
<dirkvandemoor...@ThankS−NO−

SperM.hotmail.com>
wrote:

ken.ger...@xxxxxxxxx
<ken.ger...@xxxxxxxxx>
wrote
in
message

5efb11cf−479c−4b25−99c7−12e1fa82a...@x

My
friend
and
I
need
a
little
help
with
a
thought
experiment.
Any
input
is

appreciated.

Situation: My friend and I each start at point A. At the same instant, we start traveling at 60% the speed of light. He in one direction; me in the exact opposite direction. After a certain amount of time, he shines a flashlight back in the direction

of our starting point (and me).

Questions: Can I see the flashlight?

Yes. Well... sort of. See below.

If so, what color is it?

:−) See below.

What is our relative velocity to each other?

That would be (0.6 + 0.6) / (1 + 0.36) percent of light speed ==> 88%

The wavelength of the light you friend shone, divided by sqrt((1 − 0.88)(1 + 0.88)) = 0.064 So if he shone

a blue laser with wavelenght 473 nm, you will get a signal with wavelength 7400 nm, which is somewhere in the infrared. So you won't really *see* it after all :−)

Dirk Vdm

Dear Ken and friend, both of you are moving at 60% the

speed of light in opposite directions wrt the starting point, that's not good for two good friends, is it?

Anyway, your relative speed is v = 60% + 60% = 120% percent of light speed.

For the OP, this is an example of the crap

you will find on UseNet. Asking questions here comes with the burden of having to sort out the gold from the crap.

The wavelength of the light you friend shone, divided by Exp(−1.2) = 0.301. So if he shone a blue laser with wavelenght 473 nm, you will

get
a
signal
with
wavelength
1570
nm,
which
is
somewhere
in
the
infrared.
So
you
won't
really
see
it
after
all
:−)

Hey
fuckhead,
prove that
my
calculations
are wrong!

That's not necessary, you
dwip. Your posting
nonsense does not present
the necessity to demonstrate
that your nonsense is
nonsense. Dirk's
numbers come from a model
that has been demonstrated
to be consistent
with experiment. Your
numbers come from a model
that has been
demonstrated to be
inconsistent with
experiment. That
experimental
information is freely

> available in the literature to
> anyone that wants
> to look it up, but that does
> not mean that the
> information should be
> reproduced in ASCII here.

> You are certainly free to
> believe whatever nonsense
> you want to
> believe. No one will feel
> compelled to demonstrate
> TO YOU that you
> should believe something
> else. However, for the
> benefit of other, more
> well−meaning posters, when
> you post nonsense, there
> will likely be a
> response pointing out the
> fact that it's nonsense.

> PD

> My numbers come from a model that still
> has NOT
> been demonstrated to be either inconsistent
> or
> consistent with experiment, you dweeb.

Correction: Your velocity addition formula has *certainly* been
demonstrated to be inconsistent with experiment −− namely, time of
flight measurements of particle interaction products from a collision
with a moving center of mass. The results are entirely consistent with
relativistic formulas.

> Your profound ignorance of experimental data is not
> anyone's problem
> but yours.
>
> PD

> > You can't test a velocity addition formula without
> > the help of the Doppler formula within the same
> > theory. Doppler and addition of velocities can't be
> > tested separately. They form a whole as far as you
> > need light to fix events.
>
> That is crap. I was referring to *time of flight* experiments, where
> the passage of the *actual particle* through detectors, not *light*
> from the particles, is recorded. There is no light from the particles
> required for this measurement at all.
>
> > Your profound ignorance of experimental data is
> > becoming a serious problem for all of us.

Your *time of flight* is crap. You need some signals to
fix events, ok? They may be light, sound, or any kind
of propagation carrying the information that an event has
ocurred.

Modify the gedanken as follows:
My friend and I each start at point A. At the same instant, we start
traveling at 60% the speed of sound. He in one direction; me in the
exact opposite direction. After a certain amount of time, he emits
a sound back in the direction of our starting point (and me).

Questions:
Can I hear the sound?
If so, what frequency is it?
What is our relative velocity to each other?

Answers:
Your relative speed is v = 60% + 60% = 120%
percent of sound speed. The frequency of the sound your
friend emitted, multiplied by Exp(−1.2) = 0.301. So if he emitted
an ultrasound with frequency 20 KHz, you will hear a signal
with frequency 6.02 KHz (it's within the human hearing).

Notice that you still can construct a 'special theory of relativity'
postulating that no body can travel faster than the speed of sound.
What would the answer be to that gedanken within that 'special
theory of relativity'?

Do you know what is saving Einstein's theories from collapse?
Our current technology can't still deal with FTL propagations.

"− Our future is there, see the light?
− No, I can't still hear it!
− Open your eyes, dumbo, not your ears."
(said a bat to another bat :−)

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