Re: HOCUS POCUS

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2006−09/msg01309.html

- *From*: "PD" <TheDraperFamily@xxxxxxxxx>
- *Date*: 14 Sep 2006 08:20:17 −0700

Mike wrote:

> PD wrote:
>
> > Mike wrote:
> >
> > > Randy Poe wrote:
> > >
> > > > mluttgens@xxxxxxxxxx wrote:
> > > >
> > > > > PD wrote:
> > > > >
> > > > > > mluttgens@xxxxxxxxxx
> > > > > > wrote:
> > > > > >
> > > > > > > HOCUS
> > > > > > > POCUS
> > > > > > >
> > > > > > > Two
> > > > > > > electrons
> > > > > > > E1
> > > > > > > and
> > > > > > > E2
> > > > > > > are
> > > > > > > ejected
> > > > > > > along
> > > > > > > a
> > > > > > > straight
> > > > > > > line
> > > > > > > with
> > > > > > > opposite
> > > > > > > velocities
> > > > > > > v1
> > > > > > > and
> > > > > > > v2
> > > > > > > from
> > > > > > > a
> > > > > > > device

stationary in S, at t=0 according to S clock.

Assuming that $v1 = -0.6c$ and $v2 = 0.8c$, what is the relative velocity between E1 and E2 ?

After a time interval t measured on his clock, S will conclude that the distance separating E1 from E2

is (0.6 + 0.8) ct = 1.4 ct, hence that E2 is moving away from E1 at V = 1.4 c, or that E1 is moving away from E2 at V = 1.4 c, meaning that the relative velocity between E1 and E2 exceeds c.

Yes, and there is nothing wrong with

that.

Ein
Zwei
Ein
Stein
HOCUS
POCUS
E1
=
S',
V
=
(.8
c−(−0.6c))/(1+0.8*0.6)
=
1.40/1.48
c
=
~.9459
c
E2
moves
at
1.4/1.48
c
relative
to
S'
E2
moves
at
1.4/1.48
c
relative
to
E1
ABRACADABRA
420000
=
~283784

By
assimilating
E1
to
a
frame
S'

moving
away
at
−0.6
c
from
a
frame
S,
Srists
claim
that
the
electron
E2,
which
had
a
velocity
V
=
1.4
c
wrt
E1
measured
in
S,
has
only
a
velocity
V'
=
~0.9459
c
measured
in
S'.

Yes.

But
the
electrons
don't
bother
about

which
name
they
are
given,
nor
does
their
relative
velocity
V
depend
on
their
velocity
wrt
the
device
by
which
they
have
been
emitted.
Such
device
−the
frame
S
according
to
SRists−
should
be
ignored
after
their
emission,
it
belongs
to
history.

Not at all.
You seem
to think that
relative
velocity
between
two

> objects
> should be a
> frame−independent
> quantity. It's
> not. I don't
> know
> why you
> think it
> should be.

> I am skeptical about the
> physical validity of a
> formula (the
> relativistic addition of
> velocities), which gives an
> infinity of
> solutions for a same velocity
> V between to objects, for
> instance
> 1.4 c, measured in one
> frame (S in my example).

> Because you have divine knowledge that
> separation rate
> is independent of reference frame?
>
> Well, the rest of us without divine
> knowledge are stuck
> with describing what we see in experiment,
> which
> is that the Lorentz transform is valid.

> You cannot devise an experiment to validate the velocity
> addition
> formula since that would require measuring the OWSL. The
> velocity
> addition formula is a deduction from the postulate of c
> invariance in
> inertial FoR. So talk about valid deduction, it is ok, b ut do
> not
> bullshut people that this is experimentally verified.

That's simply not true. Relativistic kinematics is confirmed all the time in particle experiments, where those high speeds and also observations from two different reference frames are common.

> Yes, nobody disputes relativistic kinematics. The problem is that SR is a particular variation of relativistic kinematics that assumes c invariance in all inertial FoR.
>
> Since c invariance in all inertial FoR cannot be proven, neither logically (no universally quantified propositions can be proven) nor experimentally (since it requires measuring OWSL in a SR way) you then sound too stupid to me spewing the same crap about particle experiments verifying velocity addition in SR.

Well, what I sound like to you is not of particular importance to me. There are three facts that remain
− The correct formula for combining velocities (independent of what assumptions are made to *derive* that formula) has been completely verified in particle experiments. Call it an empirically confirmed formula, if you like, and forget about deriving it from any assumptions. It's nevertheless a confirmed relation.
− TWLS invariance has certainly been measured, and TWLS and OWLS isotropy has certainly been measured. This is mathematically equivalent to a direct OWLS invariance measurement and so the latter measurement is not required except to make people like you feel better about the whole thing.
− The invariance of c in *different reference frames* has certainly been measured, using direct time−of−flight measurement of single photons in a number of measurements. A pion decay experiment is the most cited one, but it is also routinely measured at the Advanced Light Source and Advanced Photon Source facilities.

PD

> Mike

> > PD

> > > Mike

There's nothing I can do about the fact that your
divine knowledge contradicts experiment, that there
is some unknowable "reality" different from my
observable universe and accessible only to you.

So I'll stick with the equations that describe life
in my universe.

> Let's consider a planet
> inhabited by advanced ET's,
> situated at
> x billions light−years from
> the Earth. Their physicists,
> from the
> redshift of the Earth galaxy
> A and the Hubble constant,
> calculate that
> the Earth is moving away
> from them at −0.7 c.
> Opposite the Earth,
> they observe another galaxy
> B, whose velocity relative to
> them is
> +0.7c.
> They conclude, in
> accordance with the cosmic
> expansion, that such
> galaxy has a velocity 1.4 c
> relative to the Earth.

No, they conclude that those two points are
separating
IN THEIR REFERENCE FRAME at 1.4 c.

> As they have mastered FTL
> communication, they
> transmit those data to
> the Earth SRists, who
> calculate that B is in fact
> moving away from
> them at 0.7c + 0.7c / 1 +
> 0.7*0.7 =~ 0.94 c, forgetting

> that it is
> impossible to observe a
> galaxy moving away at 1.4
> c.

On Earth, galaxy B is OBSERVED to be moving
away at 0.94c. Earth scientists easily calculate that
the two points are separating at 1.4c from the point
of view of Planet X. They also can see galaxy C
receding at 0.7c (i.e., separating from Planet X
at 1.4c IN THE EARTH FRAME). They can easily
calculate that IN PLANET X FRAME, the observers on
Planet X would see Galaxy C receding at 0.94 c.
Planet X sends a message confirming that the
redshift of Galaxy C is consistent with a relative
velocity of 0.94c.

− Randy

.