

Re: HOCUS POCUS

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- *From:* "Mike" <eleatis@xxxxxxxx>
 - *Date:* 16 Sep 2006 08:10:31 -0700
-

PD wrote:

Mike wrote:

PD wrote:

Mike wrote:

PD wrote:

Mike wrote:

Randy Poe
wrote:

mluttgens@xxxxxxxxxxx
wrote:

PD
wrote:

mluttgens@xxxxxxxxxxx
wrote:

HOCUS
POCUS

Two
electrons
E1
and
E2
are
ejected
along
a
straight
line

Re: HOCUS POCUS

with
opposite
velocities
 v_1
and
 v_2
from
a
device
stationary
in
S,
at
 $t=0$
according
to
S
clock.

Assuming
that
 v_1
=
 -0.6
 c
and
 v_2
=
 0.8
 c ,
what
is
the
relative
velocity
between
E1
and
E2
?

After
a
time
interval
 t
measured
on
his
clock,
S

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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

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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

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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'.

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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

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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),

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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

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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.

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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.

Obviously, because you continue bullshuting 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.

Since there is no way to establish an observer that would measure anything from any fast moving particle in an accelerator, the only measurement possible is from a frame at rest wrt to the accelerator. There is no way to measure the relative speed between two particles

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directly, but only infer it.

Proton–proton collisions and electron–electron collisions (for example) are routinely done in both collider and fixed–target environments. The physics of these collisions is simple enough (at least for some measurable distributions) that comparison of the nature of the collisions in both environments is tantamount to measuring the same process in two very different frames of reference. The relative speed of the colliding particles is measured in both cases as a normal part of beamline monitoring operations. The fact that the distributions are identical if and only if the relative speeds in the two reference frames are related exactly by the relativistic prescription, is compelling evidence that the relativistic prescription is correct.

Because the above is true and makes sense, everything else you have said sounds again too stupid to me.

I will re–phrase the questions has anyone ever measured directly the relative speed between to moving particles at speeds close to c so that the velocity addition formula can be validated?

Yes.

The answer is NO. All measurements can take place from the frame at rest in the frame of the laboratory and relative speed only calculated using the velocity addition formula.

No, that's not correct.

A self–proclaimed expert in these ng's (Dirt van dar Guppy] has a different opinion, as he wrote:

"There is no experimental basis for preferring the classic over the relativistic formula. The only basis one could have for doing so, is purely philosophical, which is your case is obviously a euphemism for psychopathological."

Mike

Re: HOCUS POCUS

Mike

– 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

Re: HOCUS POCUS

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

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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

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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

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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

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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

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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