Re: Propellantless propulsion fun 3 (recirculative propelant)

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- *From*: "Spaceman" <spaceman@xxxxxxxxxxxxxxxxxxxxxxxxxxx>
- *Date*: Tue, 22 Jul 2008 22:53:23 −0400

Greg Neill wrote:

> "Spaceman" <spaceman@xxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:tYydnYhQH71SthvVnZ2dnUVZ_gOdnZ2d@xxxxxxxxxxx
>
> > Greg Neill wrote:
> >
> > > "Spaceman" <spaceman@xxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:V4SdnXYlgIAfgBvVnZ2dnUVZ_trinZ2d@xxxxxxxxxxx
> > >
> > > > Greg Neill wrote:
> > > >
> > > > > "Spaceman" <spaceman@xxxxxxxxxxxxxxxxxxxxxxxxxxx> wrote in message news:7padnbhwn6puiBvVnZ2dnUVZ_szinZ2d@xxxxxxxxxxx
> > > > >
> > > > > > Greg Neill wrote:
> > > > > >
> > > > > > > Sorry, I don't get your point. KE is simply (1/2)*m*v^2 where m is whatever mass is involved.

What is calculating the kinetic energy going to accomplish here?

It is going to show you that it will take more kinetic energy to stop the larger mass then it took to "move" the larger mass.

Since kinetic energy isn't conserved, it would not surprise me. In fact, you could employ nearly any amount of kinetic energy you wish to stop the larger mass.

How? Well kinetic energy is proportional to the mass and the square of the velocity. Say that your mass in motion is M travelling at velocity V. You want to bring it to a halt, but you want to use more kinetic energy than M has to do it. So you fire a smaller mass at it with a much higher velocity.

Say we choose a mass m = M/10.

In order to bring the mass to a halt the smaller mass m travelling at velocity v must be carrying exactly the same momentum as the larger mass M. So

M*V = m*v

v = V*M/m

but m = M/10 so

v = V*10

We fire the smaller mass at ten times the velocity as the larger mass is travelling. That gives it a kinetic energy of

KE = (1/2)*m*v^2

= (1/2)*(M/10)*(V*10)^2

= 10*(1/2)*M*V^2

It's kinetic energy is ten times that of the mass M.

Anyways, if you want the kinetic energy of the launched ball it's (1/2)*m*v^2. If you want the kinetic energy of the ball and object after impact it's

(1/2)*(M + m)*v2^2 = (1/2)*(M + m)*[v*m/(M + m)]^2 = (1/2)*m^2*v^2*/(M + m)

So it's smaller than the kinetic energy of the ball alone was by a factor of m/(M + m). Again, kinetic energy is *not* a

conserved
quantity
in
general.

So now you
think the
ball getting
stuck in the
large mass
will violate
the
conservation
of energy.

Nope. Kinetic energy is not
conserved. It trades off
with other forms of energy
to keep the sum total
conserved
(liek it does with potential
energy in orbits) but kinetic
energy by itslef is *not* a
conserved quantity.

And you typed all that shit and still can not
grasp
That the same amount of force to move the
larger
object, will not stop the larger object once in
motion because the
larger object now has a greater KE than it
had when
it was "at rest".

That's an absurd contention. Kinetic energy is
frame dependent.

Suppose you have an observer at rest with respect to
a mass M. In his frame of reference he applies a
force F to the mass M for period of t seconds. That
is, he causes the mass to accelerate with an
acceleration of a = F/M for a time duration of t.

At the end of that one second the mass is travelling
at a speed v = a*t = F/M*t.

> > Now, a second observer happens to have been coasting
> > by when this happend. By coincidence he happend to
> > be travelling along at the speed v with respect to
> > the first observer, so what he sees from his point
> > of view is the mass M starting off with a velocity
> > of −v in his frame, shoved by the other observer
> > (decellerated) and coming to rest in his frame.
> >
> > So both observers witnessed a change of velocity of
> > magnitude v for the same mass M using the same force
> > F for the same length of time t. One saw the mass
> > accelerate to speed v, the other saw it decelerate
> > from speed v to rest in his frame.
> >
> > The situations are entirely symmetrical. You can
> > reverse the roles of the observers, starting with
> > the mass at rest in the second observer's frame
> > and him shoving it to cause it to come to rest in
> > first's frame. In each case the same force F is
> > applied for time t.
>
> Now Greg pulls the frame jumping bullshit that I am
> never allowed to do for his relativity crap, so he can yet
> once more, ignore and not admit that the large mass
> "will" in fact move according to the outside the box
> frame.

Which quantities do you think were taken from one
frame and combined with quantities from another
frame in the above? (hint: I didn't perform any
calculations) Are any of them frame dependent in
Newtonian physics?

I did nto say you combined,
I said you frame jumped to use different measurements
than all from one frame to see what actually occurs
outside the box.
You jump in the box when the measurements outside
frighten you and your church.
:)

--
James M Driscoll Jr
Spaceman

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