Re: gyroscope levitation based on fluid or particle accelerators

Source: http://sci.tech−archive.net/Archive/sci.physics.relativity/2005−06/msg01133.html

- *From*: "PD" <TheDraperFamily@xxxxxxxxx>
- *Date*: 10 Jun 2005 16:16:47 −0700

uucp wrote:
> PD wrote:
> > frog wrote:
> > > can a small particle accelerator
> > > accelerate so much that the accelerating
> > > tube will act as an gyroscope and start
> > > levitating? can it be don
> > >
> > > at least in theory should be possible
> > >
> > > how much mass need to fly making the
> > > tube levitating?
> >
> > First of all, gyroscopes don't levitate. They don't tip over, but
> > there's a good reason for that. They don't their center of mass off the
> > ground.
>
> i saw somewhere that they can
>
> the center of mass is at least displaced, the
> gyro is almost flying
>
> take a look at the suspending rod, completly vertical
>
>
http://www.wfu.edu/Academic−departments/Physics/demolabs/demos/avimov/mechanics/gyroscope/bicycle_wheel.M
>
> but this is maybe only becus they dont know physics

I'm well aware of this kind of demonstration. I used to do it all the
time for my physics students.
This is not levitating. The entire weight of the wheel is being
supported by the fella holding the string. You'll note that the wheel
isn't swinging down the way you might expect, but it IS precessing.

It turns out this is a rather elementary but dramatic demonstration of

how torque changes angular momentum.

>
>
> >
> > Secondly, the amount of mass that is going around in a particle
> > accelerator is incredibly small. The amount of mass that spun even in a
> > child's toy gyroscope generates trillions the amount of angular
> > momentum that is bound up in a particle accelerator.
>
> but acording to relativity pushing the particles
> faster their mass increase to infinity, no
> matter the amount

Yes, but of course particle accelerators have a limit to the energy
they can provide for the same reason. There is only so much magnetic
field the steering magnets can provide to keep the particles going in a
circle. It is NOT true that if you just keep running the accelerator,
the particles get more and more energetic.

PD

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- ***Follow−Ups***:
  - ♦ ***Re: gyroscope levitation based on fluid or particle accelerators***
    - ◊ *From:* Don Giovanni

- ***References***:
  - ♦ ***gyroscope levitation based on fluid or particle accelerators***
    - ◊ *From:* frog
  - ♦ ***Re: gyroscope levitation based on fluid or particle accelerators***
    - ◊ *From:* PD
  - ♦ ***Re: gyroscope levitation based on fluid or particle accelerators***
    - ◊ *From:* uucp

- Prev by Date: ***Re: Imagine***
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