

Re: gyroscope levitation based on fluid or particle accelerators

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-06/msg01119.html>

- *From:* "cirejcon" <cirejcon@xxxxxxxxx>
 - *Date:* 10 Jun 2005 15:22:53 -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, completely 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 think you posted the wrong film. When I clicked on it,
the gyroscope was suspended by a string which someone was holding,
no "levitation" involved.

Please repost the one that shows levitation.

Re: gyroscope levitation based on fluid or particle accelerators

>
>>
>> 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 according to relativity pushing the particles
> faster their mass increase to infinity, no
> matter the amount
>

Learn some math, then learn some physics. One of the most intense particle beams in the world is the SNS, being built at OAK ridge. This will circulate 1.5×10^{14} protons at 1 GeV of kinetic energy (.876c). The radius is about 40 meters. If you plug in all the numbers, this works out to $\sim .005 \text{ kg}\cdot\text{m}^2/\text{s}$, of TOTAL angular momentum, far less than the spinning bicycle wheel in your picture.

Although, in fairness, it is more than a trillion times less than a child's top.

-jc

>>
>> PD

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• *Follow-Ups:*

- ◆ *Re: gyroscope levitation based on fluid or particle accelerators*
 ◇ From: Don Giovanni
- ◆ *Re: gyroscope levitation based on fluid or particle accelerators*
 ◇ From: Don Giovanni
- ◆ *Re: gyroscope levitation based on fluid or particle accelerators*
 ◇ From: PD

• *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: The Impossibility of Measuring the Velocity of Light*

Re: gyroscope levitation based on fluid or particle accelerators

- Next by Date: ***Re: Calculating $v[t]$, $x[t]$, and $t'[t]$ for an constant accelerated object.***
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