

Re: Space Travel

Source: <http://sci.tech--archive.net/Archive/sci.space.policy/2008-02/msg00750.html>

- *From:* Ian Parker <ianparker2@xxxxxxxxx>
 - *Date:* Tue, 26 Feb 2008 04:35:35 -0800 (PST)
-

On 26 Feb, 00:19, James Colvier <jamescolv...@xxxxxxxxx> wrote:

I was wondering if anybody knew anything about the possibility of traveling faster than the speed of light. I studied $E=mc^2$, but if I understand it correctly, that doesn't actually state that it isn't possible. If it were possible, what would it require, and how would it operate?

–James Colvier

Special Relativity has got the paradox of time travel. This is not $E=Mc^2$ it is involved with the Lorenz transformation equations.

Some FAQs on FTL

http://groups.google.co.uk/group/sci.physics.relativity/browse_frm/thread/18e6a12c655743ed/19ac584ec00a337d?hl=en

http://groups.google.co.uk/group/sci.physics/browse_frm/thread/4395dba4fd8c9480/e3ed38f811b586a2?hl=en&lnk=st

Introduces Feynmann diagrams to resolve paradoxes.

The next thread is on quantum entanglement. I have shown that FTL with entanglement is in fact a fallacy.

http://groups.google.co.uk/group/sci.physics.research/browse_frm/thread/89c1593ac7038908/6c1cf06e338c4dd8?hl=en

This started off with a proposal to use quantum entanglement to convey information FTL. As I pointed out all entanglement experiments can be transformed using SU2 (Lorentz can be written in this form) hence any FTL behaviour must be a paradox. A little bit more sophisticated than rods passing over holes, but a paradox none the less.

There is some interesting discussion as to the grandfather paradox. You cannot go back and kill your grandfather. Someone in a thread suggested that you ask your grandmother to guess under pain of death the factors of a product of two large primes (RSA). This, in effect,

Re: Space Travel

is what a quantum mechanical computer will be doing when it factorizes for RSA. Well not exactly, it will use Aitken's algorithm, and simply use the quantum "parallelism" to perform calculations with a low bit number.

<http://arxiv.org/abs/quant-ph/0506027>

This is an extremely interesting paper, or I think it is. It allows a limited time travel, time travel for particles with a quantum uncertainty. The past is fixed and an uncertainty principle applies to the future. Very interesting from the point of view of philosophical "free will".

It would seem therefore that FTL is completely impossible for bulk matter, that is to say spaceships. Particles are tremendously interesting from a theoretical stand point but are of little consequence here.

This next thread is about the expansion of the Universe and FTL in the Big Bang

http://groups.google.co.uk/group/sci.astro/browse_frm/thread/e1046a4c84c6015a/6d2470ec13bc5bf6?hl=en&lnk=st&

This is expansion into empty space and can occur paradox free.

I hope all this helps.

– Ian Parker

.