

Re: The Speed of Light

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2006-10/msg01673.html>

- *From:* The Ghost In The Machine <ewill@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Thu, 19 Oct 2006 12:33:14 -0700
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In sci.physics.relativity, Ben Rudiak-Gould
<br276deleteme@xxxxxxxxxx>
wrote
on Thu, 19 Oct 2006 19:17:59 +0100
<eh8fgm\$ah5\$1@xxxxxxxxxxxxxxxxxxxxxxxxxx>:

PD wrote:

The speed of light is 1. We just have goofy units that make it seem like it's an oddball number. [...]

Expanding on what PD wrote, the reason we use those units is that they match characteristic human distance and time scales. To an order of magnitude, a meter is about the height of the human body, and a second is about the length of a "cognitive moment". The reason the speed of light is so large in those units is that we think slowly. If we were half as large, we'd probably think twice as fast (since less time would be needed for signals to travel the length of the cranium), so our units of length and time would both be about half as long, and the speed of light in those units would be about the same.

-- Ben

I could see the "nil" as a common unit of measurement.
1 light-second of course is the length it takes light to travel 1 second (namely, 299792458 m). 1 nano-light-second is 10^{-9} of this distance, 29.9792458 cm, or just shy of a foot.

Since "nano-light-second" is a little unwieldy "nil" might work. The term "mil", unfortunately, is taken, so one might use "kilonils" instead. So 1 mile = 5.37 kilonils, approximately. (1 mile = 804672000000/149896229 nils exactly.)

Of course the meter has more historical significance. :-)

One could get even weirder. The second, after all, is 919267770 counts of a certain Cs-133 transition's frequency. That transition

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might be called a ceskick or something, and then one can define everything (including length units!) in terms thereof. 1 mile, therefore, would be 4394.81 ceskicks — the time it takes light to travel that distance, actually. In this system, speed becomes a dimensionless quantity, and must be less than or equal to 1.

Make of all this what one will, but I for one have no trouble with setting $c = 1$ length unit / time unit, as long as all other measurements are done properly.

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#191, ewill3@xxxxxxxxxxxxxx
Linux sucks efficiently, but Windows just blows around
a lot of hot air and vapor.

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Posted via a free Usenet account from <http://www.teranews.com>

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