

probable distance from Urth to Bleen

The Urth list — 13 messages, 5 voices, 02 Dec 2002

<https://urth.darkrealm.vip/thread/urth/3637>

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Michael Andre-Driussi — 02 Dec 2002, 18:17

Blattid wrote:

While I appreciate Don's suggestion that Wolfe might have built a deliberate ambiguity into the text, it seems to me that the Blue = Ushas "reading" introduces all sorts of problems and complexities which simply disappear if we accept the more straightforward idea that the Bleen system lies a few dozen lightyears (or however far the Whorl might reasonably travel in 1000/300 years) away from the Urth system.

Oh, oh! In 1997 I worked out the distance as 930 light years, but that was without figuring a hundred years in parking orbit. If we factor that in, so the journey is only around 230 years, then the time dilation goes up to

4.11:1, suggesting the velocity is 0.97 c, and the distance is more like 850 light years.

OBJECTIVE SUBJECTIVE

LEG RATE TIME TIME DISTANCE

Boost 0.1 g 10 years 8 years 0.5 light years Glide 0 g 880 years 214 years 853.6 light years

Boost 0.1 g 10 years 8 years 0.5 light years

===

TOTAL 900 years 230 years 854.6 light years

(The rates for the boost legs are simple speculation. It doesn't seem like the boost could be as high as 1 g, but it could be much lower than 0.1 g)

=mantis=

Dan'l Danehy-Oakes — 02 Dec 2002, 18:28 · follows Michael Andre-Driussi

Mantis reminds me of this

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(The rates for the boost legs are simple speculation. It doesn't seem like the boost could be as high as 1 g, but it could be much lower than 0.1 g)

... I tend to think that the _Whorl_ most likely has a boost of

<< 1 G -- probably .01G or so. Reasoning: the Cargo know enough about the skew of gravity that they can discuss, in fairly learned terms, the way it affects the behavior of GEVs going too

fast in an antispinward direction. If the ship decelerated at any appreciable fraction of G, then floater drivers -- at least those who occasionally drive fast -- would notice that the "central" direction for getting into a plow had shifted. O'course, if that happened nearly a century ago, they could all have forgotten it by Silk's time ... More generally, though, I suspect people would remember (certainly the chems would) a time when things fell a bit differently...

Michael Andre-Driussi — 02 Dec 2002, 18:46 · follows Dan'I Danehy-Oakes

Blattid wants new numbers. Okay! A 10:1 time dilation suggests somewhere between .98 c and .99 c, I reckon.

OBJECTIVE SUBJECTIVE

LEG RATE TIME TIME DISTANCE

Boost 0.01 g 100 years 80 years 0.5 light years Glide 0 g 700 years 70 years 686.0 light years

Boost 0.01 g 100 years 80 years 0.5 light years

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TOTAL 900 years 230 years 687.0 light years

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=mantis=

Dan'I Danehy-Oakes — 02 Dec 2002, 19:09 · follows Michael Andre-Driussi

Well ... that's still rather more than the couple of dozen LY I thought of ... it seems then that Urth's red sun probably is not particualrly visible from the Bleen system.

-----Original Message-----

From: Michael Andre-Driussi [mailto:mantis at siriusfiction.com]

Sent: Monday, December 02, 2002 10:47 AM

To: urth at urth.net

Subject: RE: (urth) probable distance from Urth to Bleen

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=mantis=

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<http://www.urth.net/> To unsubscribe: send > "unsubscribe" to
urth-request at urth.net

James Wynn — 02 Dec 2002, 20:19 · follows Dan'I Danehy-Oakes

Nice caluculations Mantis, however if one insists that Silk's Time coexists with Severian's Time then these numbers won't do. Wolfe puts Severian's time 1000 to 2000 years after Typhon's.

Just nit-picking,

Crush

-----Original Message-----

From: Michael Andre-Driussi [mailto:mantis at siriusfiction.com] Sent: Monday, December 02, 2002 12:47 PM To: urth at urth.net Subject: RE: (urth) probable distance from Urth to Bleen

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=mantis=

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Michael Andre-Driussi — 02 Dec 2002, 20:59 · follows James Wynn

Crush wrote:

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Just nit-picking,

Hmmm. The text is pretty clear that the Objective Time has been 1000 years (LS3, ch 6, p. 242) and the Subjective Time has been 332 years (date on letters).

If we assume that the Whorl has been in a parking orbit for 100 years (as per Pas's time (LS2, ch 9, p. 235), then those 100 years are taken out of the equation since, by definition, they pass in real time. That is to say, Objective Time for the voyage is 900 years and Subjective Time is 230.

The time between the reign of Ymar and that of Severian is said to be a chiliad. So the Whorl arrived at the Bleen system about 30 years before Autarch Maruthas closed the roads of the Commonwealth.

Or perhaps I'm missing your point?

The A model (.97 c):

	OBJECTIVE	SUBJECTIVE
LEG RATE	TIME	TIME DISTANCE
Boost 0.1 g	10 years	8 years 0.5 light years
Glide 0 g	880 years	214 years 853.6 light years
Boost 0.1 g	10 years	8 years 0.5 light years
===		
TOTAL	900 years	230 years 854.6 light years

The B model (.98 c):

	OBJECTIVE	SUBJECTIVE
LEG RATE	TIME	TIME DISTANCE
Boost 0.01 g	100 years	80 years 0.5 light years
Glide 0 g	700 years	70 years 686.0 light years
Boost 0.01 g	100 years	80 years 0.5 light years
===		
TOTAL	900 years	230 years 687.0 light years

=mantis=

Jerry Friedman — 02 Dec 2002, 22:20 · follows Michael Andre-Driussi

--- Michael Andre-Driussi <mantis at siriusfiction.com> wrote:

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I'd like to pick a nit too. I think you mean Urth time and Whorl time. According to the theory of relativity that you're basing your calculations on, they're equally objective (or subjective). Otherwise, thanks for doing the calculations! I think what we learn from them is the order of magnitude: the Short Sun is probably some hundreds of light-years from Urth, and probably toward the higher end of that range. ...

Jerry Friedman

Michael Andre-Driussi — 02 Dec 2002, 22:58 · follows Jerry Friedman

Jerry Friedman quoted me and wrote:

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Um, no, Jerry . . . when the Whorl is at rest, the Whorl people experience time at the same flow as people on Urth or Blue or Green, but at near-light speeds subjective time (the passage of time experienced by the crew) is compressed compared to the objective time of the rest of the universe (or technically "any other location that is not accelerated to NAFAL velocities," which happens to encompass most of the universe). This is the basis of the famous "twin paradox." (I'm not coining the use of "objective" and "subjective" here: that is how it is done.) Look into it, if you like, since it is fascinating! Or just take my word for it.

=mantis=

Dan'I Danehy-Oakes — 02 Dec 2002, 23:13 · follows Michael Andre-Driussi

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Um, no, Mantis ... in a world that obeys Einstein's rules, "time" is equally [ob|sub]jective in any inertial reference frame; more specifically, "time" on the Whorl cruising at NAFAL velocities is no more and no less objective than "time" on the surface of Urth. This is a consequence of "time" not being an independent entity in such a world; it is one dimension of a four-or-more-dimensional manifold which we (more) properly refer to as "spacetime."

The "objective time"/"subjective time" terminology you use comes, not from relativistic physics, but from SF writers who play with these concepts in their novels but either do not comprehend what I oversimplify in the previous paragraph, or else assume (and I think this quite likely) that most "users" of NAFAL ships would think this way, the non-absolute nature of spacetime in an Einsteinian universe being kind of difficult to wrap one's head around. (I do not claim to have my head all the way around it by any means!)

Jerry Friedman — 03 Dec 2002, 00:26 · follows Dan'I Danehy-Oakes

--- Dan'I Danehy-Oakes <ddanehy at siebel.com> wrote:

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This "technically" comment is more nearly correct than your "subjective" and "objective" comments. You're forgetting the expansion of the universe, though. To be nit-pickingly correct, a great deal of the matter in the universe *is* moving at relativistic velocities in our reference frame. So your "any other location" happens to encompass our galaxy, indeed our local supercluster and much more, but not the whole universe.

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Thanks, Blattid. I probably shouldn't mention that I have a Ph. D. in physics, since then people might stop arguing with me about physics, and as my students could tell you, I do make

mistakes.

There's an interesting and comprehensible discussion of the twin paradox at <http://tinyurl.com/3648>. It contains the comment, 'Relativity here pays the price of permissiveness. It says to us, "Pick whichever frame you like to describe your results, or use spacetime diagrams and don't choose a reference frame at all. They're all equivalent, I don't mind." No wonder that one explanation ends up looking like three or four.'

And nothing saying that one reference frame is subjective and another is objective.

Jerry Friedman

Dan'l Danehy-Oakes — 03 Dec 2002, 01:04 · follows Jerry Friedman

Jerry Friedman wrote...

--- Dan'l Danehy-Oakes <ddanehy at siebel.com> wrote:

Um, no, Jerry . . . when the Whorl is at rest, the Whorl
[etc.]

No I didn't!

Thanks, Blattid. I probably shouldn't mention that I have a
Ph. D. in physics, since then people might stop arguing with
me about physics, and as my students could tell you, I do
make mistakes.

Gawrsh ... a real physicist. That's what we need around here. Me, I can just about wade in
Meissner, Thorne, & Wheeler without getting my feet wet, I gaze at the curly-symbols in
admiration and wish I had gone beyond Diff E.

There's an interesting and comprehensible discussion of the
twin paradox at <http://tinyurl.com/3648>.

Neat. Looks like I made a bit of a blodge in my last reply
to Mantis ... kind of ignored the whole question of accelerating reference frames. Ooohhh well.

--A Mildly Chastened Blattid

matthew.malthouse — 03 Dec 2002, 09:56 · follows Dan'l Danehy-Oakes

On 02/12/2002 20:19:19 James Wynn wrote:
Nice caluculations Mantis, however if one insists that Silk's Time
coexists
with Severian's Time then these numbers won't do. Wolfe puts Severian's
time
1000 to 2000 years after Typhon's.

Ummmm..... And the quotes that establish this are?

Somewhere amongst the papers on my desks are the notes I took on last reading regarding
time and chronology. I'll try and dig them out.

Matthew

James Wynn — 03 Dec 2002, 19:45 · follows matthew.malthouse

Crush originally wrote

Nice caluculations Mantis, however if one insists that Silk's Time coexists with Severian's Time then these numbers won't do. Wolfe puts Severian's time 1000 to 2000 years after Typhon's.

Matthew Malthouse queried:

Ummmm..... And the quotes that establish this are?

Crush responds:

Sorry, I keep assuming everyone knows more about this stuff than I do. This came from the question and answer period between this list and Wolfe way back when...

Q. About how far, really, is the New Sun series set in our future (or the future of the previous universe)? How much time elapses between Typhon and Severian?

A. That is never specified in the books. My offhand guess is between 1000 and 2000 years. I would have to reread the books with care to perhaps trim the estimate up a little bit.

Here is a link to this text:

<http://www.ansible.demon.co.uk/cc/cc77.html>