

Re: Transit times between L4 and Moon

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- *From:* "Ockham" <my@xxxxxxxxxxxxxxxxxxxxx>
 - *Date:* Fri, 01 Feb 2008 08:37:17 GMT
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"Timothy Partee" <tpartee@xxxxxxxxxxxxxx> wrote in message
news:yPmdnZw9D9Vm6j_anZ2dnUVZ_tyknZ2d@xxxxxxxxxxxxxxxxxxxxx

| Androcles wrote:

| > " They are racing to reach the Moon. "

| >

| > "Flip a coin" doesn't enter into it, the result is a tie. :-)

| >

| > Always amusing when someone wants to sound knowledgeable when they

| > babble "relativistic orbital velocity", but then say "likely", and
funnier

| > still when they say:

| > "The other consideration you failed to pay notice to..."

|

| To put it succinctly: you're wrong. =)

|

| Racing to the moon means racing to an object with a dynamic
| position. The only way the "race" would result in a tie is if the moon
| just so happened to be precisely on the line of perpendicularity with
| the sun at the time each rocket reached the moon. The odds of that are
| pretty slim. This isn't even taking into account landing approaches,
| which add another level of complexity that is likely to change the
| outcome. Please think before you troll.

|

| – Timothy Partee

Pity you snipped the context. Fortunately I happen to know that if
Androcles has put something in quotation marks then he is quoting
someone else.

You yourself said

Timothy Partee: "they would arrive at a theoretical point perpendicular
to Earth's orbital trajectory at the precise same time. "

That is correct, although long-winded.

To put it succinctly: you contradict yourself. Only an idiot does that.
Please think before you troll.

Re: Transit times between L4 and Moon

"Timothy Partee" <tpartee@xxxxxxxxxxxxxx> wrote in message
news:rIqdnWC0GNFbeBLanZ2dnUVZ_gCdnZ2d@xxxxxxxxxxxxxx

| Given that ship A and ship B start from stable orbits in the precise
| center of the L4 and L5 gravitational pockets (i.e. their motion in
| orbit around the sun is in a precise 1:1 frequency with Earth) and have
| precisely the same mass, engines, fuel, etc. – they would arrive at a
| theoretical point perpendicular to Earth's orbital trajectory at the
| precise same time. This is due to conservation of angular momentum and
| relativistic orbital velocity of the three bodies.

| However, if they are in a theoretical "dead motion" state (relative
| to the Sun) at the beginning of this conjectured model, they would not
| only experience free-falling toward the sun, but would also experience
| perturbations from the L4 and L5 points around them respectively that
| would likely launch them into any number of potentially chaotic paths,
| requiring careful compensation by any engines and navigation systems in
| order to reach Earth. Since you're speaking purely hypothetically, we
| may as well get really crazy.

| The other consideration you failed to pay notice to when you were
| thinking about the moon's orbit and one ship approaching the moon sooner
| than the other due to the time it takes them to move toward it, the
| moon's orbit is changing is: the ships may take more than one lunar
| orbit to arrive, and therefore the advantage could be given to EITHER of
| the ships depending on the time it takes them to travel to the general
| vicinity of Earth. Without knowing the precise chronology that this
| "race" begins and the precise details of the mass, thrust and
| capabilities of these craft, it's impossible to guess which will arrive
| first. Flip a coin. =)

| – Timothy Partee

| Aztec50 wrote:

| > Spaceship A is at L4.

| >

| > Spaceship B is at L5.

| >

| > They are racing to reach the Moon. Each has the same engines, and

| > will go at the same speed.

| >

| > Question #1: which will arrive first? Question #2: if I didn't have
| > much energy (and these ships weren't the supersleek dragsters they
| > undoubtedly are), what would be the optimal/energy-efficient orbital
| > "route" from each libration point to the Moon?

| >

| > I.e., what I'm trying to figure out here is whether the fact that L4

| > is "ahead" of the Moon's position in orbit is an advantage or

| > disadvantage vis-a-vis L5's position "behind" the Moon's position in

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|> orbit. My first thought was that Spaceship A will win easily (vis-a-
|> vis Question #1), because while it moves toward the Moon, the Moon is
|> moving toward it. But then I reflected that Spaceship A, in going
|> "backward", still has to compensate for the forces that are propelling
|> it "forward." And then I reflected that Spaceship A, in entering a
|> retrograde orbit, will actually start to move in toward the Earth.
|>
|> And then I decided to put the question to all your brainiacs out there
|> in the hopes that someone will actually know the answer to this ##
|> thing.
|>
|> Just so we're all on the same page, this is the libration point
|> topography. (This map has the Sun at the center, but substitute the
|> Earth for the Sun, and the Moon for the Earth, and we're golden.)
|>
|> http://en.wikipedia.org/wiki/Image:Lagrange_points.jpg
|>
|> thanks!
|>
|> FA