

# Re: The Twin Paradox explained from the moving twin ?

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*Source:* <http://sci.tech-archive.net/Archive/sci.physics.relativity/2006-09/msg01595.html>

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- *From:* "Sorcerer" <[Headmaster@xxxxxxxxxxxxxxxxxxxxx](mailto:Headmaster@xxxxxxxxxxxxxxxxxxxxx)>
  - *Date:* Sun, 17 Sep 2006 18:41:36 GMT
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"Dirk Van de moortel" <[dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)> wrote in message [news:M5gPg.81564\\$UT7.1169522@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:M5gPg.81564$UT7.1169522@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

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| "Nicolaas Vroom" <[nicolaas.vroom@xxxxxxxxxxxxx](mailto:nicolaas.vroom@xxxxxxxxxxxxx)> wrote in message [news:9BfPg.81516\\$RS2.1038472@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:9BfPg.81516$RS2.1038472@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>

|> "Dirk Van de moortel" <[dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)> schreef in bericht

|> [news:M6ePg.81384\\$AU2.1096819@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:M6ePg.81384$AU2.1096819@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

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|>> "Nicolaas Vroom" <[nicolaas.vroom@xxxxxxxxxxxxx](mailto:nicolaas.vroom@xxxxxxxxxxxxx)> wrote in message [news:TjbPg.81143\\$XS2.1040521@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:TjbPg.81143$XS2.1040521@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>>>

|>>> "Dirk Van de moortel" <[dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)> schreef in bericht

|>>> [news:7QaPg.81097\\$ZZ2.1210461@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:7QaPg.81097$ZZ2.1210461@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>>>>

|>>>> "Nicolaas Vroom" <[nicolaas.vroom@xxxxxxxxxxxxx](mailto:nicolaas.vroom@xxxxxxxxxxxxx)> wrote in message [news:O89Pg.80940\\$Uh2.1177712@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:O89Pg.80940$Uh2.1177712@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>>>>>

|>>>>> "Dirk Van de moortel" <[dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:dirkvandemoortel@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)> schreef in bericht

|>>>>> [news:XbzOg.77748\\$oT2.1054784@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:XbzOg.77748$oT2.1054784@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>>>>>>

|>>>>>> "Nicolaas Vroom" <[nicolaas.vroom@xxxxxxxxxxxxx](mailto:nicolaas.vroom@xxxxxxxxxxxxx)> wrote in message [news:oJ9Og.75563\\$t31.1106993@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:oJ9Og.75563$t31.1106993@xxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

|>>>>>>>

|>>>>>>> For more details goto : <http://users.telenet.be/nicvroom/dirk3.htm>

|>>>>>>>>

|>>>>>>>>

|>>>>>>>>> So the event [B2] where B receives the signal is given by solving the system

|>>>>>>>>>> {  $x = v t$

|>>>>>>>>>> {  $x = c (t-1)$

|>>>>>>>>>> which gives

|>>>>>>>>>>> [B2]:  $( t, x ) = ( c/(c-v), v c/(c-v) )$

## Re: The Twin Paradox explained from the moving twin ?

|>>>>>  
|>>>>> What you do is nicer  
|>>>>> For  $v = c/2$  you get:  
|>>>>>  $t = c/(c-v) = 1 / (1-0.5) = 2$   
|>>>>>  $x = c(2-1) = c$   
|>>>>> The same result as I get in the drawing.  
|>>>>> B2= (2,1)  
|>>>>>  
|>>>>> But for the time for the signal to go from A to B  
|>>>>> I have  
|>>>>>  $t = c/(c-v)$   
|>>>>> and you have  
|>>>>>  $t = v/(c-v)$   
|>>>>>  
|>>>>> So you made a mistake, and it was not a typo.  
|>>>>>  
|>>>>> I did not made any mistake.  
|>>>>>  
|>>>>> Your t and my t are different.  
|>>>>>  
|>>>>> Your t starts from A0  
|>>>>> My t starts from A1  
|>>>>>  
|>>>>> It does not.  
|>>>>> In <http://users.telenet.be/nicvroom/dirk3.htm> you say:  
|>>>>> | 1. When the clock of A reaches 1 time unit ( $t=1$ ), A issues a light  
|>>>>> signal to B.  
|>>>>>  
|>>>>> So your t has value  $t = 1$  at event [A1].  
|>>>>> If it started at event [A1] then it would hav value  $t = 0$  at [A1].  
|>>>>> So your t does not start from [A1].  
|>>>>>  
|>>>>>  
|>>>>> But if indeed your t \*would\* start from [A1] then  
|>>>>> [A1]:  $(t, x) = (0, 0)$   
|>>>>> [A0]:  $(t, x) = (-1, 0)$   
|>>>>> and then you have to solve the system  
|>>>>>  $\{ x = c t$   
|>>>>>  $\{ x = v (t - (-1))$   
|>>>>> which gives  
|>>>>> [B2]:  $(t, x) = (c/(c-v), c^2/(c-v))$   
|>>>>>  
|>>>>> I made a typo here (- this is the same result as mine)  
|>>>>> That should be  
|>>>>> [B2]:  $(t, x) = (v/(c-v), c v/(c-v))$   
|>>>>>  
|>>>>>  
|>>>>>  
|>>>>> But that is not what your first two assumptions suggest:  
|>>>>> | 1. When the clock of A reaches 1 time unit ( $t=1$ ), A issues a light  
|>>>>> signal to B.

## Re: The Twin Paradox explained from the moving twin ?

|>  
|> And that is correct.  
|> Starting from A1 it takes a time  $v/(c-v)$  to reach return point B  
|  
|  
| Yes, it takes the signal a time  $c/(c-v)$  to reach point [B].  
| If you "start at [A1]" then  
| [A1]:  $(t, x) = (0, 0)$   
| [A0]:  $(t, x) = (-1, 0)$   
| and  
| [B2]:  $(t, x) = (v/(c-v), c v/(c-v))$   
| so the time for the \*signal\* to reach event [B2] is  
|  $t[B2] - t[A1] = v/(c-v)$   
| and the time for \*B\* to reach event [B2] is  
|  $t[B2] - t[A0] = v/(c-v) - (-1) = c/(c-v)$   
|  
|> Starting from A0 it takes a time  $c/(c-v)$  to reach return point B.  
|  
| Yes, it takes the signal a time  $c/(c-v)$  to reach point [B].  
| If you "start at [A0]" then  
| [A0]:  $(t, x) = (0, 0)$   
| [A1]:  $(t, x) = (1, 0)$   
| and  
| [B2]:  $(t, x) = (c/(c-v), c v/(c-v))$   
| so the time for the \*signal\* to reach event [B2] is  
|  $t[B2] - t[A1] = c/(c-v) - 1 = v/(c-v)$  {as before}  
| and the time for \*B\* to reach event [B2] is  
|  $t[B2] - t[A0] = c/(c-v) - 0 = c/(c-v)$  {as before}  
|  
|>  
|> If you start from A1 you have to add 1 in order to calculate the total  
time  
|>  $v/(c-v) + 1 = v/(c-v) + (c-v)/(c-v) = (v + c - v)/(c-v) = c/(c-v)$   
|> And that is your answer,  
|> which is correct  
|>  
|> And so is my answer.  
|  
| Yes, but be aware of the fact that your statement  
|| 1. When the clock of A reaches 1 time unit ( $t=1$ ), A issues a light  
|| signal to B.  
| explicitly means that you start with [A0], not with [A1].  
|  
|>  
|> Your method is more general  
|  
| I wouldn't say more general.  
| It's just standard basic 2D analytic geometry.  
| And so is your method. We just take different origins.  
| I use the common method to give the origin both zero-coordinates:  
| [A0]:  $(t, x) = (0, 0)$

Re: The Twin Paradox explained from the moving twin ?

|  
| Dirk Vdm

You lost, Dork!

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You are funnier than Wilson Rabbidge!

You are never going to win, DORK!

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Androcles, inventor of the integration constant.

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