

# Re: SR Postulate on Speed of Light

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*Source:* <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-05/msg01443.html>

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- *From:* "Harry" <harald.vanlintel@xxxxxxx>
  - *Date:* Fri, 20 May 2005 12:37:59 +0200
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<john\_doe\_ph\_d@xxxxxxxxxx> wrote in message  
<news:1116554446.726529.218950@xx>  
> I am confused by the typical wording that one finds for the second  
> postulate of SR, namely that the speed of light is independent of the  
> motion of the source. The speed of any wave depends only on the medium,  
> so the motion of the source is not relevant. Consider a horn moving  
> through the air. It emits a sound wave. Once the wave leaves the horn,  
> its speed depends only on the properties of the air.  
>  
> Now it's true that for someone traveling with the horn, the speed of  
> the sound would be greater in the forward direction than the backward  
> direction, but this has more to do with the speed of the OBSERVER  
> (relative to the medium).  
>  
> I am more comfortable with an alternate statement of the second  
> postulate, namely that the speed of light is the same for all inertial  
> observers.  
>  
> Are these two formulations of the second postulate equivalent?

Quite, the second formulation encompasses the first:  
If the measured vacuum speed of light is the constant  $c$  in any inertial  
frame, it is by definition independent of the motion of objects in that  
frame and that includes light sources.

Harald

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- *Follow-Ups:*
    - ◆ ***Re: SR Postulate on Speed of Light***  
◇ *From:* Curious
  - *References:*
    - ◆ ***SR Postulate on Speed of Light***

Re: SR Postulate on Speed of Light

◇ *From:* john\_doe\_ph\_d

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