

# Re: Potential energy in Einstein's 1905 Relativity

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- *From:* [valls@xxxxxxxxxxxx](mailto:valls@xxxxxxxxxxxx)
  - *Date:* 14 May 2007 18:38:14 -0700
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On 12 mayo, 00:50, karandash2...@xxxxxxxxxxx wrote:

On May 11, 7:51 pm, v...@xxxxxxxxxxxx wrote:  
<Raphaelshito long drwan imbecilities snipped>

Einstein doesn't use the word TOTAL in his paper, but by the historic context we can deduce that when he writes "energy of the body" he is referring to its total energy.

You are finally learning, old fart.

In a similar way Einstein doesn't use the word POTENTIAL, but by the historic context we can deduce that when he writes "energy of the body at rest"

But he never writes "energy of the body at rest" , you must have a cubanese translation (or is it the soviet one?) .  
He refers to the body being at rest in one frame, old fart, that's all. The "body" has just emitted some gama rays in the frame of rest, old unemployable imbecile, so it has energy. And it isn't potential, pathetic historic fraudster.

<rest of Raphaelshito's cretinsisms mercifully snipped>

Now confusing words with ideas? I thought you had this problem only with letters. Of course that Einstein never writes "energy of the body at rest", he writes in German, no? In the English version that we can obtain at <http://www.fourmilab.cs> , the relevant phrase is "Let there be a stationary body in the system S, and let its energy referred to the system S be  $E_0$ . Let the energy of the body relative to the system S' moving as above with the velocity v, be  $H_0$ ". As you can see, Einstein refers to the energy of the body at rest in system S( $S_0$ ), denoting it as  $E_0$ ; and refers also to the energy of the body moving in system S'(S1) with velocity v, denoting it as  $H_0$ . Both references

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are made BEFORE the emission of light. Your derivation about the body having energy because it emits some light energy ("so it has energy") is totally false. Einstein makes explicit references to the energies  $E_0$  and  $H_0$  the body has in the systems  $S(S_0)$  and  $S'(S_1)$  respectively, at rest in system  $S(S_0)$  and moving with velocity  $v$  in system  $S'(S_1)$ , without any relation at all with the future light energy emission. A little later Einstein writes  $H_0 - E_0 = K_0 + C$ , equivalent to  $H_0 = K_0 + (E_0 + C)$ . The relevant phrase in the paper is "Thus it is clear that the difference  $H - E$  can differ from the kinetic energy  $K$  of the body, with respect to the other system  $S'$ , only by an additive constant  $C$ , which depends on the choice of the arbitrary additive constants of the energies  $H$  and  $E$ . Thus we may place  $H_0 - E_0 = K_0 + C$ ".

I had made the following question to you more than one time, and you are always evading a rational answer. What kind of energy is for you  $E_0$  (that you said "it isn't potential"), an energy with an arbitrary additive constant  $C$ , that when added to the kinetic energy  $K_0$  you obtain the total energy  $H_0$ ? (I use here only the before emission case with sub-index 0 to make you more clear that the presence of potential energy can be supported without any reference to the light emission event).

I propose you to check that potential energy is the unique kind of energy in all Physics history until 1905 with an arbitrary additive constant. As I said you before, to maintain that potential energy is not present in Einstein's paper is absolutely impossible.

RVHG (Rafael Valls Hidalgo-Gato)

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