

Re: About frames moving at constant velocity with respect to inertial ones

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- *From:* Yuancur@xxxxxxxxxx
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On Aug 10, 9:35 am, Tom Roberts <tjroberts...@xxxxxxxxxxxxxxxx> wrote:

Yuan...@xxxxxxxxxx wrote:

The **definition** of an inertial frame was one in which Newton's first and second laws of motion hold true.

And third. The translator added the footnote "to lowest order in v/c ", which is relevant.

Of course, as you say, the footnote was added by the translator – many years later.

What Einstein actually wrote, in 1905, translates as "...a system of coordinates in which Newtonian mechanics holds good".

What Einstein essentially did was to introduce additional postulates which show that (the laws of) Newton's mechanics do not hold good in a system in which Newtonian mechanics holds good.

Being as this is a contradiction, translators felt obliged to "correct" Einstein by inserting footnotes such as "to lowest order in v/c " or "to a first approximation".

(The earliest such note that I have seen is dated 1923 – 18 years after the original.)

Now you're touching on the principle of relativity, which did come as a great shock, even when expressed in its Galilean form.

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That was not a "shock" at all in 1905. Einstein was consolidating Maxwell's equations into the wider realm of theoretical physics at the time, of which the PoR was a founding principle.

IMHO this is the major reason why Planck and others "jumped on the relativity bandwagon" so quickly.

N