

Re: Letter to Dirk Van de moortel

Source: <http://sci.tech-archive.net/Archive/sci.physics.relativity/2005-03/1082.html>

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Date: 03/04/05

Date: Fri, 04 Mar 2005 19:08:05 +0000

RP wrote:

- > *I've engaged Dirk in the same argument. He doesn't seem to grasp that*
- > *he's deriving a GR relationship from SR and the premise of*
- > *nonreciprocity (broken symmetry) in an accelerating field. I could be*
- > *wrong, but then so necessarily was Einstein, since this was the very*
- > *argument that he used to support the necessity of GR, an argument that I*
- > *quoted for Dirk, to no avail.*

Einstein was wrong in this case, yes.

- > *But*
- > *then the extension of SR to accelerating frames *is* GR, so why not call*
- > *it properly GR in which the solution to the twin paradox lies.*

GR is not an extension of SR to accelerating frames. It's an extension of SR to cases in which gravity—by which I mean the Riemann curvature—is not negligible. An accelerating frame is merely a coordinate relabeling of an inertial frame. Expressing SR dynamics in terms of these coordinates is a mathematical exercise; it does not change, or extend, the predictions of the theory.

— Ben