

Review of: "Why a uniformly accelerated classical charge must radiate"

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There is a basic flaw in stating that there is a discrepancy between Eq.(1) and (2). The uniformly accelerated charge has been in motion at all times (from minus infinity to t) creating a time-dependent electromagnetic field. It is true that there is an instantaneous frame in which the charge has zero velocity, but the acceleration will be not zero, which means that the charge will radiate (see for instance the famous Larmor formula for electric dipole radiation). Given this evident flaw in the premises of this work, I am admittedly not willing to enter into details of the remainder of the paper. But let me add at least that the Lorentz covariance of Maxwell equations is *not* an opinion. It is an exact property of the equations. Period. Radiation from an accelerating charge is not a trivial problem. One should also be clear in stating what "radiation" exactly means: in my understanding it would correspond to have a non-zero flux of electromagnetic energy far from the charge albeit it is also difficult to define a "radiation zone" as for an oscillating charge. A deeply related, but more precise question is whether there is a radiation reaction force on the charge to make the energy balance consistent. A very good reading on this topic is R. Peierls, "Radiation in Hyperbolic Motion", from "Surprises in Theoretical Physics" vol. I.