

Review of: "Can the electromagnetic fields form tensors if $D = \epsilon E$ and $H = B/\mu$?"

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In this work the author brings attention to the apparent lack of Lorentz covariance of the equations for the macroscopic electromagnetic fields in linear, isotropic, polarizable media, an issue that is poorly, if at all, treated in most textbooks, as noted by the author, and on which I concur.

The correct conclusion of this work is that the expression given by Eq. (3) is not a covariant tensor. The conclusion on which I disagree is that the electromagnetic fields in moving media cannot be calculated in special relativity (as stated in the last paragraph of the conclusion section).

The point is that, even though the tensor given by Eq. (3) is not Lorentz covariant, it coincides with the expression of a more general, Lorentz covariant tensor evaluated in the rest frame of the medium. This is very neatly shown in [1] (see Eqs. (21) or (23) in that work), where the fully covariant electrodynamics in isotropic, linear media is developed.

[1] Palash B Pal 2022 *Eur. J. Phys.* **43** 015204.