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Comment on “A survey of the new proposal about the photon momentum”

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Abstract: Bahadoran *et al* [1] proposed that the new approach to photon momentum, introduced by Umul [2], was not correct, because they obtained a negative energy expression for the absorbed photon. In this comment, we show that this proposal is wrong, since the related authors made a mistake in their derivations.

Keywords: photons; conservation laws; special theory of relativity; quantum mechanics.

In a recent paper, Bahadoran *et al* [1] suggested that the new approach on the photon momentum [2] was not correct, because they obtained a negative energy expression for the absorbed photon by the electron. We will prove that their result is erroneous, because they made an important mistake in their derivations.

The scenario, proposed in [2], is the absorption of a photon by an electron. The energy of the incident photon is shown by $E\gamma$ and is equal to hf where h and f are the Planck's constant and frequency respectively. At this point, it is important to note that the energy of the photon is positive. We suppose that the momentum of the photon is unknown, because of the reasons, given in [2]. After the photon is absorbed, the kinetic energy and momentum of the electron is given by the relativistic equations of

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