Review of: "Classical Explanation of Absorption Spectra"

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Potential competing interests: No potential competing interests to declare.

This paper attempts to offer a new explanation for the classical absorption spectra. It is asserted that the classical (known) explanations are insufficient. A theoretical experiment is used to show the classical example of a light wave passing through a gas-filled chamber, resulting in a dark spectral line appearing in the exiting wave. After quoting various classical theories, the conclusion reached in this paper is based on the stated assumption: *If the direction of the electric field of the applied light wave and the direction of the electric field created by the electron are opposite to each other, i.e., the two waves have a phase difference of 180 degrees, then the effective electric field will be zero.* While it is possible to use a stream of polarized light, it is not easy to have a chamber of gas in which the electron vibration is polarized at a particular direction. The fact that the absorption experiment can be repeated for any white light is sufficient to deny the conclusion given.

Although a second version has described that the mechanism of the absorption process is still a mystery, this added material does not contribute to the merit of the proposition that the observed dark spectral line is the outcome of two vibrations cancelling out each other due to a phase difference.

The theoretical experiment described is not suitable to support the idea of phase cancelling. White light has a continuous spectrum and no association with vibration phase. A polarized beam of light does have a polarized plane of oscillation. But the polarization is applicable to all frequencies. Were it possible to design a chamber filled with ‘polarized electrons of a phase different of 180 degrees, the outcome is that all the input light frequencies would be annulled, not just a particular frequency.

The recommendation is not to publish this paper.