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Investigating the Invalidity of the Law of Energy Conservation Based on Waves Interference Phenomenon Inside a Ringed Waveguide

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Abstract : Law of energy conservation is one of the fundamental laws of physics. Energy is conserved, and the total amount of energy is constant. It can be transferred from one object to another and changed from one state to another. However, in the case of wave interference, this law faces important contradictions. Based on the presented mathematical relationship in this paper, it seems that validity of this law depends on the path of energy wave, like light, in which it is located. In this paper, by using some fundamental concepts in physics like the constancy of the electromagnetic wave speed in a specific media and wave theory of light, it will be shown that law of energy conservation is not valid in every condition and in some circumstances, it is possible to increase energy of a system with a determined amount of energy without any input.

Keywords : power, law of energy conservation, electromagnetic wave, interference, Maxwell's equations
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