New Experiment Under Ordinary Conditions With Common Tools to Verify the Planck's Equation

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Utilizing a simple lens, we choose filters at will (red, yellow, green, blue, and violet). Then, we apply the filter to the lens and locate a thermometer at its focal point. It is evident that the temperature shown on the thermometer is lowest when using the red filter, highest with the violet filter, and the green filter falls in the middle. These results confirm the validity of Planck's universally accepted relation. Despite our common perception of red light as warm and blue light as cool, the experimental data clearly demonstrate the opposite.

On the other hand, we evaluate the results of two experiments conducted by physicists at the University of Michigan and the MIT. These experiments indicate that Planck's equation does not hold at a very small scale from the light source. The main reason for this is that at very close distances to the source ($d = \varepsilon$ or equivalently at $t = \varepsilon$), the amount of energy significantly exceeds the amount of energy that Max Planck predicted. This is because photons exhibit both linear and rotational motions. In the experiments conducted by the University of Michigan and MIT, the total energy was measured, whereas in Planck's experiment, only the linear energy was measured, not the rotational energy. The discrepancy in energy measurements (between the two university experiments and Planck's experiment) indicates the presence of rotational motion of photons or missing rotational energy.

In this paper we are going to show why red light appear warmer than blue one.

References:

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