Photoelectric effect explained by photons

Explaining the photoelectric effect using wave-particle duality, the work function of a metal, and how to calculate the velocity of a photoelectron.

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Let"s explore what work function is, and why, in photoelectric effect, electrons come out with different kinetic energies. While exploring this, we will rediscover Einstein"s photoelectric equation.

Explaining the experiments on the photoelectric effect. How these experiments led to the idea of light behaving as a particle of energy called a photon.

This effect provides key evidence that light behaves not only as a wave but also as a particle, with energy delivered in discrete packets called ...

This phenomenon is called the photoelectric effect. The photoelectric effect is evidence that light is quantized--light exists as discrete packets of energy called photons. The greater the frequency of ...

When a metal surface is exposed to a monochromatic electromagnetic wave of sufficiently short wavelength (or equivalently, above a ...

1. The kinetic energy of the photoelectrons are independent of intensity but depend on frequency. 2. Below a minimum frequency called the threshold frequency, no photoelectric effect takes place, even ...

Discover the photoelectric effect, where light ejects electrons from materials, revealing quantum physics principles and leading to technologies like ...

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1.1.1. Origin of the photoelectric effect equation It is one of those occasional paradoxes of experimental physics that the experiment first used by Hertz to establish Maxwell"s theory for the propagation of ...

When light strikes materials, it can eject electrons from them. This is called the photoelectric effect, meaning that light (photo) produces electricity. One ...

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