



MANIC OF PHYSICS OF PHOTOELECTRON EFFECT EVENT

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Annotation: photoelectronial effect is photos, i.e. the particles of light, is the case of the substance and is an accident of its disposition of electrons. In 1905, the incident, explained by Albert Einstein, proved that there is a quantum sucking of light (photons). The detection of the photoelectron effect has had a significant impact on the development of quantum mechanics and has shown that photovecles depend on the photos of the photos of Einstein. This phenomenon not only plays an important role in scientific terms, such as modern technologies, such as photos, lasers and quantum computers.

Keywords: photosolectronic effects, pums, electronic exits, energy, pavement, material features, photoveleories, lasers, photodiles, photon energy.



The photoelectron effect is a phenomenon in which electrons are emitted as a result of the impact of photons on matter. This phenomenon, discovered by Albert Einstein in 1905, disproved the wave theory of light and proved that it exists in the form of discrete energy quanta (photons). The scientific importance of the photoelectron effect is great, because it helped to understand the basic principles of quantum mechanics and motivated the development of many modern technologies. This phenomenon illuminated the interaction between light and matter from a new perspective, which led to the advancement of science and technology to a new level. The study of the photoelectron effect has led to the creation of modern quantum technologies such as lasers, photocells and quantum computers.

The photoelectron effect is a phenomenon in which photons (light particles) impact matter and release electrons from its surface. This phenomenon was discovered by Albert Einstein in 1905 and it greatly influenced the development of quantum mechanics. The role of the photoelectron effect in physics includes the following main aspects:

1. Photons and energy quanta: The discovery of the photoelectron effect showed that light is distributed not as a wave, but as discrete energy quanta (photons). This, in turn, provided a new approach to understanding the interaction between light and matter.

2. Einstein's formula: To explain the photoelectric effect, showed that photon should be enough to produce electrons from energy. It describes the energy of the photon as the energy (here - the Planck Constant, $E = h \cdot \nu$ - Planck's Formula), and this discovery has made a significant contribution to the development of quantum mechanics.

3. Confirmation of quantum mechanics: The experimental confirmation of the photoelectron effect showed the inadequacy of classical wave theories and the validity of quantum mechanics.

4. Material properties: In the photoelectron effect, electrons are emitted only at a frequency corresponding to the maximum energy of photons. This phenomenon



is related to the wavelength of light, and if the frequency of photons is low, no electrons are emitted. This situation differs from classical electromagnetic theory.

The scientific and technological importance of the photoelectron effect is great. This phenomenon is the basis of modern quantum mechanics and is used in the creation of many devices, such as photocells and photodiodes, lasers, quantum computers and other modern technologies.

Other aspects and applications of the photoelectron effect. The scientific and technological importance of the photoelectron effect is great. A deeper study of his basic physical concepts opened up many new directions in modern physics. Below is more information on some of the applications and scientific aspects of the photoelectron effect:

Photoelectron spectroscopy. One of the manifestations of the photoelectron effect is photoelectron spectroscopy. This method is used to study the electronic structure of matter. Using photoelectron spectroscopy, the work function of materials, energy levels of electrons and other properties are determined. It is used in many materials science, chemistry and physics research.

Photony energy and operational function. The discovery of the photovolon an effect has made it possible to set the concept of understanding of the work function of the matter. The work function indicates the minimum energy required to remove the electronics of the substance. The size of the work function affects the electrical properties of the material. This concept has significant differences in semiconductors, metal and dielectric materials.

Difference of photoelectron effect with classical theories. In classical physics, based on the wave theory of light, photons were supposed to have energy and momentum, but when they hit the surface of matter, electrons were expected to be ejected after a relatively certain time. However, experiments have shown that this theory is wrong, because electrons are immediately ejected depending on the energy of the photons. Einstein explained this difference in terms of quantum mechanics, explaining the photoelectron effect.



Modern scientific and technological research. The study of the photovolon connector not only helps to develop physical theories, but also in the practical scientific and technological spheres:

Quantum computers: The basis of the photoelectron effect in quantum theory plays an important role in understanding the principles of operation of quantum computers.

Lighting sources: The photovolon effect is used in various light sources, such as lasers and other optical devices. Lasers are widely used in apps that require clear control of quantity energy.

Photonic technologies: The study of the photoelectron effect is important in the field of photonics, that is, in the creation of materials and technologies necessary to control optical and electromagnetic waves.

Summary

The discovery of the photoelectron effect caused revolutionary changes not only in scientific physics, but also in various technological fields. Its study allowed a deeper understanding of the interaction between light and matter, and this understanding became the basis for many modern scientific and technical developments. The discovery of the photoelectron effect spurred the development of quantum mechanics, and it is now widely used in optics, electronics, power generation, and other fields.

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