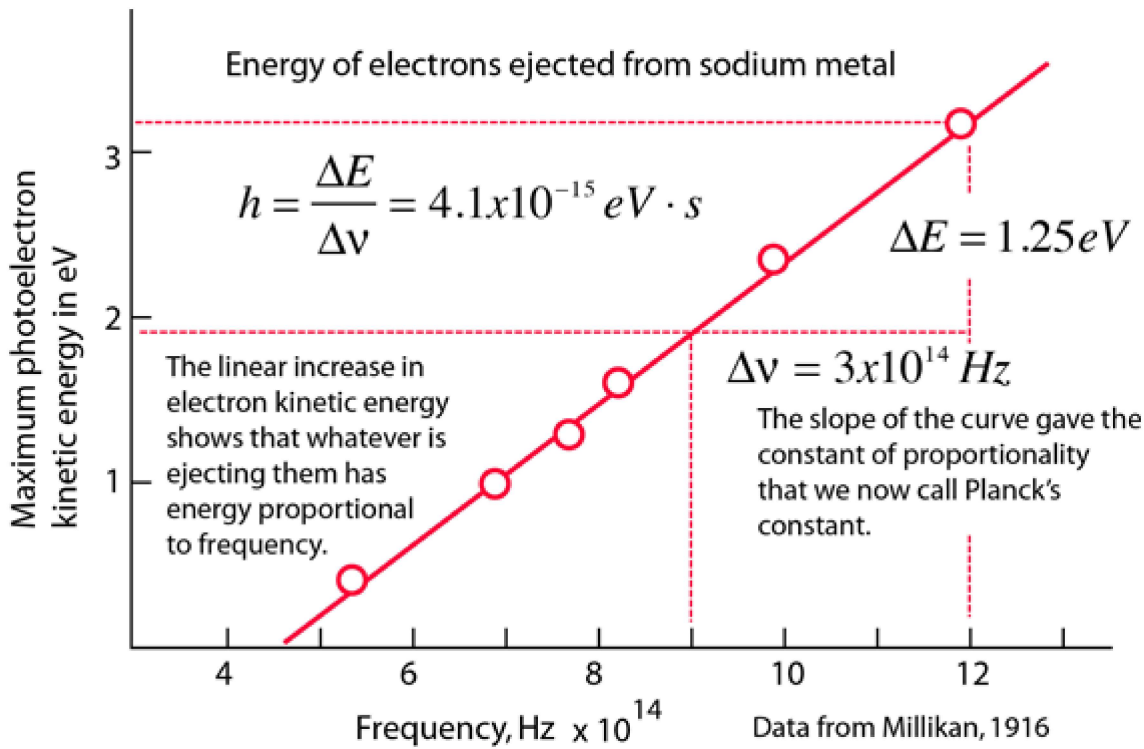


# Early Photoelectric Effect Data



## Planck hypothesis

[HyperPhysics](#)\*\*\*\*\* [Quantum Physics](#)

R Nave

# The Planck Hypothesis

In order to explain the frequency distribution of radiation from a hot cavity ([blackbody radiation](#)) Planck proposed the ad hoc assumption that the radiant energy could exist only in discrete quanta which were proportional to the frequency. This would imply that higher modes would be less populated and avoid the [ultraviolet catastrophe](#) of the [Rayleigh-Jeans Law](#).

$$E = h\nu$$

frequency of radiation, sometimes written as  $f$  giving expression  $E = hf$ .

Quantum energy of a photon.

$h = \text{Planck's constant} = 6.626 \times 10^{-34} \text{ Joule} \cdot \text{sec} = 4.136 \times 10^{-15} \text{ eV} \cdot \text{s}$

The quantum idea was soon seized to explain the [photoelectric effect](#), became part of the

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