Physics 223
Experiment 10: The Photoelectric Effect

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In the late 1800's, many thought that all the main principles and law of nature had been discovered. However, there were still a few puzzling discrepancies. One of these is the experimental data on the emission and absorption of electromagnetic radiation from a blackbody. The classical theory of that time (Rayleigh-Jeans Law) predicted that the amount of light emitted from a

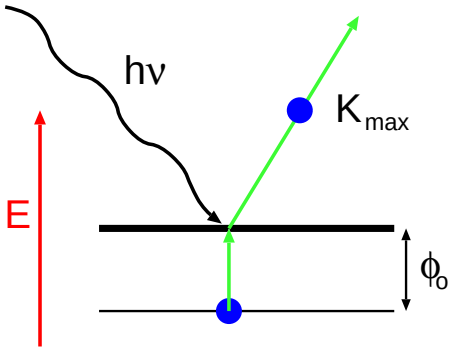

Figure 1: Schematic of the photoelectric effect. A photon strikes the surface of a metal and ejects an electron with work function ϕ_o, which leaves the surface with kinetic energy.

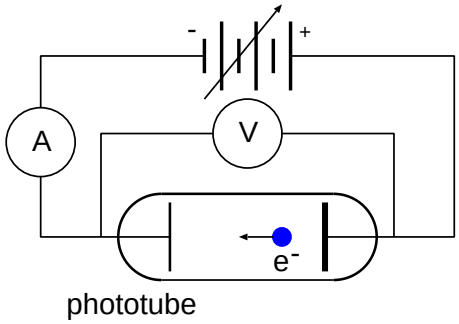

Figure 2: Schematic of the photoelectric measurement apparatus. The power supply is used to prevent electrons from reacing the anode and producing a current.

Photoelectric Effect Measurement

The apparatus used for the photoelectric effect measuremen