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The Photoelectric Effect applies to Protons and Proton Beams

RICHARD KRISKE, University of Minnesota — The photoelectric effect is well known and since its inception has been found to include many more wavelengths of Electromagnetic Energy. It has also been found to apply to particles, such as electrons. In electrons, the antiparticle is the positron, and the quasi particle is the hole. Does the Proton have a quasi particle? Positrons don't appear in abundance, and one can surmise that they decay, and this author believes that they decay (at least in one decay path, which may not be the most likely path) into "holes" (electron holes). Electrons don't decay, in any normal time. The same is claimed for the Proton. But how about the Anti-Proton? This author believes that the Anti-Proton decays quickly, just like the Positron into a "hole". As an electron beam travels through a vacuum, in a vacuum tube, a current of holes travels in the reverse direction. Unlike the Positron that it came from the electron hole does not interact with the electron as a particle. Likewise in a Proton beam, a beam of Proton holes travels in the reverse direction. Although the Proton holes can't collide, they can establish a current in a semiconductor detector.

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