# Conversion of photons from particles to linked waves and back: a hypothesis

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Abstract

In microphysics, how do photons behave like both waves and particles? It is called wave-particle duality. The wave-particle duality inference would appear to be counter intuitive. Are waves really a cluster of particles, as is often stated, yet like the waves that radiate in a disturbed pool of water as is often demonstrated? The answer to wave-particle duality may lie through the following proposed solid torus or possibly ellipsoid ringform field explanation, which is derived in part using classical physics. A solid torus or ellipsoid ringform hypothesis is contrary to string theory and at least to some extent accepted particle physics.

## Introduction

Is electromagnetic radiation made up of waves, particles or both? (Feynman, 1985) Some would say that such waves are no more than clusters of particles. I propose that photons, which make up electromagnetic radiation (Feynman, Leighton, Sands, 1989, Vol. 1) from gamma rays to extremely low frequency radio waves, can transition from particle-like to waveform when released from their parent electrons. That is to say, electromagnetic radiation defined as being comprised of particles may actually be in waveform through the particle's intrinsic field-altered shape followed by linking. This does not preclude the possibility that electromagnetic radiation could be a mix of true waves and unaltered particle-like photons especially since the transition from particle to waveform might not always be successful.

My hypothesis is the result of reverse engineering. Reverse engineering can have negative connotations but here, without having a pirated product to hands-on disassemble and physically measure, such an approach is in all probability appropriate. An imaginary free photon, as a wave, was tracked back to its parent electron. The hypothesis was then developed forward from that point.

## Hypothesis

### Ringform defined as a solid torus or possible ellipsoid

Consider a photon, as an energy field, being essentially in the shape of a solid torus or ellipsoid before or just as it is released from its source electron. The photon, like its parent electron, is an energy field in the shape of the proposed ringform.

Electrons are the incubators of photons. Photons are released from electrons when the electrons lower in their orbit from around an atom's nucleus, with the photon often being described as a packet of energy. Electrons will not be discussed here in depth even though they are the architects of photons including so-called massive photons. It is being suggested that electrons

are the basis of the ringform shape and that a photon will assume the shape of its parent. Note that this does seem to beg the question: is a photon, while it is still coupled to an electron, a separate entity that is somehow joined with the electron or is it simply a bit of the electron?

Within accepted schools of thought, photons are explained as being particles. Adding to that thinking, this proposal suggests that photons have a ring-like solid torus or possibly ellipsoid shape when in their normal orbiting position while an intrinsic part of an electron. That they are are generally in a ringform or will assume ringform with an electromagnetically strong region that is continuously oriented towards the parent atom's nucleus. This results in an asymmetrical energy field. The strong electromagnetic region in the photon will continuously adjust position toward the atom's nucleus as necessary, while the photon is in range of the nucleus's influence.

Diametrically opposed from the photon's electromagnetically strong region is a weak area. The assumption is that this electromagnetic weak region in the photon's field offers the means for the photon to change shape. It can change shape from what appears to be a particle into a monopole linear waveform when it is stripped from its electron by an energetic triggering event. When a photon is forcefully ejected from its electron, the inertial force resulting from the instantaneous angular acceleration results in the ring-shaped photon deforming or separating at its energy weak region to produce a linear waveform. (FIG. 1.) In other words, the photon transitions from ringform to linear waveform. Fundamentally, the seemingly particle-like photon can be thought of as a closed curled wave. The monopole linear waveform will remain linear until or unless acted upon by some overriding external influence. If the possibility exists for the functional equivalent of the nucleus's strong force holding the nucleus together, the free waveform photons will unite end to end as probability dictates. It is suggested that this will happen due to an equivalent strong force's apparent concentration at the monopole's ends. It is anticipated that this equivalent strong force will act in a way that is somewhat comparable to how magnetism aligns itself inside a bar magnet while appearing to concentrate at the bar's ends. In spite of a wave favorable length to radius ratio, individual waveform photons can still appear to be particle-like because of their overall micro size. It is also offered that the changing from ring to linear presentation will also work in reverse with deceleration as and if external forces influence the photons.

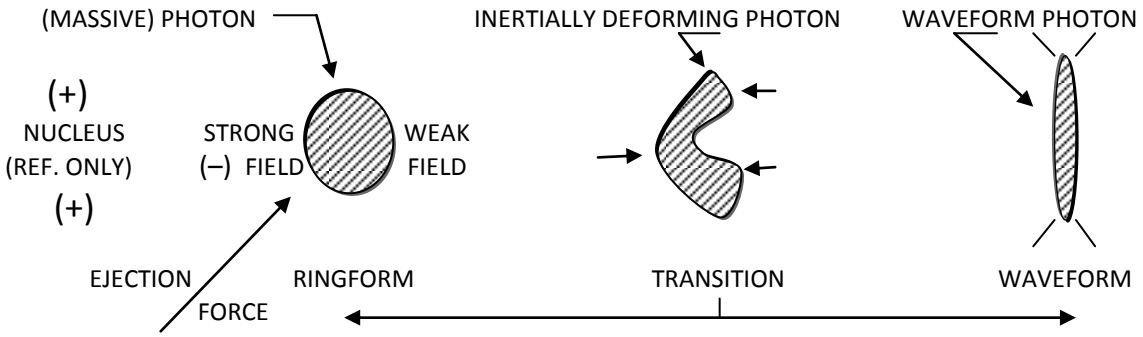
Summary

Photons are in ringform when they are with their parent electrons. Ringform photons will deform to form waves when subjected to impulse driven acceleration. It is therefore conceivable that the waves could return to ringform if subjected to an appropriately targeted energetic external influence.

Freed photons will form as waves by virtue of their fluid ability to change from ringform to waveform. Having wave-like length or essentially being ring (particle) like, the free likely massive photons energy level will remain the same except when acted on by an external force.

When ringform photons are deformed into electromagnetic monopole waves then the monopoles are expected to have the ability to join end to end with each other as opportunity allows.

FIG. 1.




NOTE: REPRESENTATIONS ARE NOT TO SCALE. RIGID OUTLINES ARE FOR EMPHASIS ONLY.

## References

Feynman, Richard P., *QED, The Strange Theory of Light and Matter* (Princeton University Press, Princeton, New Jersey, 1985).

Feynman, Leighton, and Sands, *The Feynman Lectures on Physics* (Addison-Wesley Publishing Company, Reading Massachusetts, 1989, Originally published in 1963), Vol. 1-3.