

Abstract Submitted
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Unification of Forces and Particles by a Bound Photon Model¹

RAMIRO MONTALVO, College of Charleston — The bound photon model postulates all massive elementary particles are composed of one or more photon pairs with opposite momentum bound by an interaction that reflects the photons over a distance near their wavelength. Recent experimental evidence reveals the binding of photon pairs of into bosons as quantized states of orbital angular momentum validating the postulate of the bound photon (BP) model for bosons. When the BP model is subjected to the same constraints that yielded the Dirac equation, the BP model solution is very similar to the Dirac solution, the difference being that the Dirac solution uses a massive propagator while the BP model solution uses two massless propagators to describe a single massive particle. The propagator difference modifies QED which is the foundation of the theories that follow thus forcing simplifying changes to the weak theory and QCD. The justification for the changes to the current theories will be described as limited by the time available. The BP model resolves some of the problems and shortcomings of the standard model and provides a fairly clear new direction for the solution of others. A preliminary report of the model is available in the French archive at: [hal.archives-ouvertes.fr ID: hal-01790320](https://hal.archives-ouvertes.fr/hal-01790320).

¹Affiliate Research Faculty Position 2015-2018

Ramiro Montalvo
College of Charleston

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