

## ***Gravitation, Quantum Mechanics and the Least Action Electromagnetic Equilibrium States***

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**Abstract:** The century old challenge of fundamental physics has been to reconcile quantum mechanics (QM) that deals with submicroscopic interactions between elementary particles from the quantization perspective, with relativistic mechanics that deals with gravitation at the macroscopic level from the infinitesimally progressive perspective, mainly embodied by the theory of general relativity (GR). The ease with which infinitesimally progressive sequences of motion can be mathematically represented by means of an indefinite number of instantaneous momentary excited states of a postulated underlying neutral energy quantum vacuum field, which is the foundation of quantum field theory (QFT), has naturally privileged this quantization perspective in all past attempts at reconciling QM with gravitation. But, given that all scatterable elementary particles identifiable within atomic structures have an electrical charge, and are thus electromagnetic in nature, this article explores the possibility of reconciling quantum mechanics with relativistic mechanics from the electromagnetic perspective, by means of reconciling the wave function with the least action electromagnetic resonance states into which elementary charged particles become captive within atomic and nuclear structures, and ultimately, with gravitation.

**Keywords:** Gravitation; Quantum Mechanics; Quantum Field Theory; Electromagnetism; Trispatial Geometry; Special Relativity; General Relativity

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