

Abstract Submitted  
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**Hidden Variables: The Elementary Quantum of Light** JULIANA BROOKS, General Resonance, LLC — Re-interpretation of the work of Max Karl Planck has revealed classical hidden variables in his famous quantum work. A historical background will first be given to help the audience place this re-interpretation into historical perspective. A hidden variable was present in earlier versions of Planck's quantum formula, but omitted from his final version. Upon restoration of the variable to Planck's quantum formula, the interpretation of quantum mechanics is simplified and enriched. Planck's proportionality constant,  $h$ , takes on deeper meaning. Prior concepts regarding the photon are placed in a new perspective, and a new elementary particle of light, with an invariant and universal energy constant, is revealed. Wave-particle duality, quantum uncertainty, and reconciliation of quantum mechanics with general relativity become less paradoxical. Awareness of the hidden variable in Planck's quantum formula suggests a means to bring quantum mechanics to a more complete state and resolve some of the quantum paradoxes.

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