AIP summer meeting 2025



Contribution ID: 9 Type: Poster

A Fresh Geometric Perspective of an Electron and its Waves Appear to Provide A More Comprehensive Description of Matter

Monday 1 December 2025 16:00 (1 hour)

Matter consists of particles and waves. Every day we interact with particles while essentially disregarding waves. Quantum mechanics mathematically describe matter from the waves' perspective while disregarding particles. This description does not reflect our everyday experience with matter.

The double slit experiment shows that electrons inherently have wave properties. Quantum mechanics can predict time-elapsed double slit experiment results using wave mechanics. But it is unable to explain how electrons interact with the macroscopic environment within this experiment.

My theoretical research illustrates how electrons interact with its macroscopic environment using basic geometry and algebra, and the conservation of energy concept.

Theoretical research begins with a suggested first-person perspective of a traveling electron and its waves. The physical restrictions of the double slit experiment setup, the mathematical geometrics of the electron's waves, and the conservation of energy concept, together constrains the electron to certain locations in space until its interaction with the macroscopic environment. Basic algebra is then used to translate the geometric perspective into two distinctive wave properties. These properties are at a minimum a 99% match compared to double slit experiment calculations derived from conventional trigonometric perspective of the electrons' waves.

The electron's confined locations in space adds a particle complement to quantum mechanics' wave description. Together, these two independent descriptions appear to more closely reflect our everyday experience with matter.

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Track Classification: Topical Groups: Quantum Science and Technology