

DTP-Math-Circle: Session 4—Probability, Inequalities and Quantum Mechanics

Oct 14 2022

7 Quantum mechanics

The bounds on K deduced by you in the previous problem are true when the box behaves in a way that obeys the familiar rules of mathematical probability. But in the world of electrons and atoms, these rules are not obeyed, and seemingly impossible things can happen.

This year's Nobel Prize in Physics was actually given to scientists who carefully measured such "impossible" effects.

See <https://www.nobelprize.org/prizes/physics/>

Closer home, "impossible" effects (that violate the predicted range of a quantity broadly similar to K defined above) were also measured in Bengaluru recently.

See <https://www.indiatimes.com/technology/science-and-future/experiment-by-indian-scientist-disproves-einsteins-understanding-of-reality-560623.html>

To truly appreciate this, you can choose to learn Physics in college even if your first love is Math!