



INSTITUTE SEMINAR

Monday, 18 November 2013 3.00 pm Fermion

Speaker:

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Title:

The Superposition Principle in Quantum Mechanics - did the rock enter the foundation surreptitiously?

Abstract:

The superposition principle forms the very backbone of quantum theory. The resulting linear structure of quantum theory is structurally so rigid that tampering with it may have serious, seemingly unphysical, consequences.

This principle has been successful at even the highest available accelerator energies. Is this aspect of quantum theory forever then? The present work is an attempt to understand the attitude of the founding fathers, particularly of Bohr and Dirac, towards this principle. The Heisenberg matrix mechanics on the one hand, and the Schrödinger wave mechanics on the other, are critically examined to shed light as to how this principle entered the very foundations of quantum theory.
