Special Issue

Completeness of Quantum Theory: Still an Open Question

Message from the Guest Editor

- Which sense models, which we create to quantitatively describe our observations and experiments, may be considered as a complete description of the physical reality?
- Quantum phenomena and experiments produce time series of data. We should answer an important question: *Is QM is predictably complete (whether quantum probabilities grasp all reproducible fine details of these time-series of data)?*
- Despite erroneous belief, the violation of BI does not justify speculations about nonlocality, super-determinism, or retro-causality in nature.
- Contextuality is the key to understanding quantum paradoxes and is a resource for quantum information.
- Two slit experiments with larger and larger molecules suggest that to explain these experiments in an intuitive way we need both waves and particles.
- Recent experiments with bouncing droplets, the continuation of pioneering research of Couder et al., provide an intuitive understanding of various quantum phenomena.
- There are successful subquantum theoretical causal models and computer simulations of some quantum phenomena.

Guest Editor

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