Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

On The Nature Of Spacetime ASEEM GUPTA[1], None — While Einstein made spacetime relative for observers and an *active* player in physical phenomena he tacitly assumed that all observers experience spacetimes that are *always synchronizable* We propose extension of concept of spacetime by considering possibility of an observer experiencing spacetimes that cannot synchronize with that of a system due to impossibility of transfer of any information between them. This coupled with fundamental premise of quantized action leads to increasing desynchronization between spacetime experienced by observer and that of system leading to only probability distribution functions connecting spacetime coordinates of two. This desynchronization of spacetimes is postulated as the root cause of fundamental probabilistic nature of Quantum Physics. It is shown that Schrodinger's equation models space desynchronization but not that of time inclusion of which leads to Quantum Field Theory. Desynchronization explains fundamental difference in quantum statistics and classical statistics and also existence of dynamic symmetry in addition to geometric symmetry. *Nested desynchronized spacetime* model of our Universe is proposed. It is shown how desynchronization can allow modeling of elementary particles as extended systems and not *point-like* explaining why these may be modeled as representations of Lie groups.

[1]This is a study to discern one fundamental premise of spacetime conception in classical physics and demonstrating how this premise does not hold in quantum physics. Desynchronization is presented as fundamental aspect of ontology of quantum theory.

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None

Date submitted: 04 Dec 2014 Electronic form version 1.4