



ORTVAY KOLLOKVIUM // Ortway Seminar Series

2017. április 6. csütörtök 15:00-kor
6th April 2017., Thursday 3pm

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Deformations of quantum theory

Abstract:

Theoretical approaches to quantum gravity suggest that the conventional notions of space and time become meaningless at ultra-short distance scales. In many instances, dynamics in such ensuing "fuzzy" spacetimes can be captured by certain deformations of quantum mechanics and quantum field theory. In this lecture I will explain some of the progress that has been achieved over the years in understanding such deformed quantum theories and how they may teach us something about the short-scale structure of spacetime, and ultimately quantum gravity. I will emphasise how these theoretical consequences can connect to real-world measurable quantities, and analyse in detail a simple deformation of quantum mechanics which may be realised in a table-top experiment. From the theoretical side, I will explain how these quantum systems are related to the nonassociative algebras of observables proposed in the beginnings of quantum mechanics and quantum field theory by Jordan, von Neumann, Wigner and others to study the mathematical and conceptual foundations of quantum theory.

Minden érdeklődőt szívesen látunk! Az előadás előtt negyed órával az előadóban teát szolgálunk fel.

All visitors are welcome. Tea and biscuits are served 15 min prior the lectures at the location.

Helyszín: ELTE Pázmány Péter s. 1/A alatti épületében a földszinti 0.81 (Ortway) terem.

Location Lágymányos Eötvös Campus (address: Pázmány Péter s. 1/A), Northern Building, Room Ortway (0.81).

Az előadás-sorozatról az interneten az "ortvay-koll.elte.hu" címen található információ.

Further information available at the "ortvay-koll.elte.hu" website.