

Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
Bijenička c. 54
ZAGREB, HRVATSKA

SEMINAR ZAVODA ZA TEORIJSKU FIZIKU
(Zajednički seminari Zavoda za teorijsku fiziku,
Zavoda za eksperimentalnu fiziku i Zavoda za teorijsku fiziku PMF-a)

Noncommutative Quantum Mechanics viewed in term of extended objets

Laure Gouba
ICTP, Trieste, Italy

Datum: srijeda 30. ožujka 2011.

Vrijeme: 11:00 c.t.

Mjesto: IRB, dvorana I krila

Sažetak:

We explore the notion of spatial extent and structure, already alluded to in earlier literature, within the formulation of quantum mechanics on the noncommutative plane. Introducing the notion of average position and its measurement, we find two equivalent pictures: a constrained local description in position containing additional degrees of freedom, and an unconstrained nonlocal description in terms of the position without any other degree of freedom. The local description is found to be the most convenient as it manifestly displays additional information about structure of quantum states that is more subtly encoded in the nonlocal, unconstrained description. Subsequently, we use this picture to discuss the free particle.

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