

Institut Ruđer Bošković
ZAVOD ZA TEORIJSKU FIZIKU
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SEMINAR ZAVODA ZA TEORIJSKU FIZIKU

(Zajednički seminari Zavoda za teorijsku fiziku,
Zavoda za eksperimentalnu fiziku IRB-a i Fizičkog odsjeka PMF-a)

**K-Poincare-Hopf algebra and Hopf algebroid structure of
phase space from twist**

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Mjesto: IRB, dvorana I krila

Abstract:

We unify k -Poincare algebra and k -Minkowski spacetime by embedding them into quantum phase space. The quantum phase space has Hopf algebroid structure to which we apply the twist in order to get k -deformed Hopf algebroid structure and k -deformed phase space. We explicitly construct k -Poincare-Hopf algebra and k -Minkowski spacetime from twist. It is outlined how this construction can be extended to k -deformed super algebra including exterior derivative and forms. Our results are relevant for constructing physical theories on noncommutative spacetime by twisting Hopf algebroid phase space structure.

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