UPO UNIVERSITÀ DEL PIEMONTE ORIENTALE

DiSIT DIPARTIMENTO DI SCIENZE E INNOVAZIONE TECNOLOGICA

SEMINARI RICERCA E FORMAZIONE

Mercoledì 08 Aprile 2026
ore 14:00-15:00
SALA SEMINARI INFORMATICA (C192)

SEMINARIO/CORSO APERTO A:
Docenti | Teachers, Borsisti | Research Fellows, Assegnisti | Postdoctoral researchers, Dottorandi | PhD students, Studenti | Students
SEMINARIO/CORSO IN LINGUA:
Inglese | English

Construction of noncommutative spacetimes and gauge theories

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Noncommutative geometry provides a representation of spacetime in terms of associative algebras of operators. The ultimate goal is to arrive at a "quantum spacetime" that encodes quantum gravity effects, at least at an effective level. Recently, the characterization of 11 new quantum Minkowski spacetimes through their star algebras has been accomplished, resulting in Lie-algebraic deformations of the standard Minkowski spacetime. The construction of gauge theories on those noncommutative spacetimes has been investigated. The starting point is the definition of a twisted differential calculus, which can be achieved by considering multiderivations. Expression for a connection, curvature, and gauge transform can be found, and asking for gauge invariance gives additional constraints on the theory.

Il seminario è promosso dal Prof. Paolo Aschieri

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