Università degli Studi di Cagliari
Dipartimento di Fisica

Istituto Nazionale di Fisica Nucleare
Sezione di Cagliari
High Energy Theory Group

Avviso di Seminario

Venerdì 22 Febbraio 2008
h. 11:00 – Aula C del Dipartimento di Fisica

Prof. Peter Horvathy

Università di Tours

Non-commutative mechanics and exotic galilean symmetry,in mathematical and condensed matter physics

Aspects of the "exotic" particle, associated with the two-parameter central extension of the planar Galilei group, are reviewed. A fundamental property is that the position coordinates do not commute. The relation to anyons is discussed. Anomalous coupling to an external electromagnetic field yields similar results for any nontrivial value $g \neq 2$ of the gyromagnetic ratio.Similar equations arise for a semiclassical Bloch electron. Exotic Galilean symmetry is also found in Moyal field theory.