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Abstracts of Short Communications and Posters

Section:

7. Lie Groups and Lie Algebras

1991 MS Classification: 22, 16
Gromov, Nikolai, Komi Science Center RAS, Syktyvkar, Russia
Nonsemisimple Cayley-Klein groups and its quantization.
An orthogonal CK groups are the motion groups of N-dimensional spaces of constant curvature. $\mathbf{D}(\iota)$ is an associative algebra with unit and nilpotent commutative generators. Nonsemisimple CK groups may be realized as the matrix groups over $\mathbf{D}(\iota)$ [1]. The quantization theory of the simple Lie groups and algebras was developed by FRT [2]. Following slightly modified version of this theory the quantum analogs of the nonsemisimple CK groups are constructed as Hopf algebras of the noncommutative functions over $\mathbf{D}(\iota)$. The quantum CK algebras are obtained as the dual objects to the corresponding quantum groups. References: 1. N. A. Gromov, *Contractions and analytical continuations of the classical groups: unified approach*, Komi Science Center, Syktyvkar, 1990 (in Russian). 2. N. Yu. Reshetikhin, L. A. Takhtadjan and L. D. Faddeev, *Algebra and Analysis*, **1**, (1989), 178-206 (in Russian).