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

Group-theoretical approach to Calogero-Moser-Sutherland models

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Abstract:

We present solutions of the rational Calogero-Sutherland Hamiltonian in terms of a recursion formula in the number of particles. Our construction is based on Jacobians for the radial coordinates on certain symmetric spaces which can be identified with the rational Calogero-Sutherland Hamiltonian for certain coupling parameters. We can continue our solutions analytically in the coupling constant to all allowed values of the coupling constant. The same program can be put forward for symmetric superspaces. Thereby we obtain solutions for a two family Calogero-Sutherland model with two independent coupling parameters. An interpretation of the models is also proposed.

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