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Lax representation of supersymmetric Calogero-Moser models

Thursday, 13 October 2022 14:30 (25 minutes)

We explicitly construct the Lax pair (L,A) for the N-extended supersymmetric Calogero–Moser models. Having obtained such a representation, which correctly reproduces all equations of motion, we consider the integrability of these models.

To represent the structure of conserved currents, we derive the complete set of Liouville charges, which depend on lower powers of momentum, for the supersymmetric N=2 model. The additional, non-involutive, conserved charges needed for a maximal superintegrability of this model are also found.

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