

Solvable spin models with nearest-neighbors interactions

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April 18, 2007

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In this talk I shall review some recent results on solvable spin systems of Calogero–Sutherland type presenting only short-range interactions. By means of an appropriate modification of the Dunkl operator formalism I shall show how to find a flag of finite-dimensional spaces of spin functions preserved by the Hamiltonian of each model. Several infinite families of eigenfunctions will be computed in closed form by explicitly diagonalizing each Hamiltonian in its corresponding invariant spaces. The talk will be mainly based on Refs. [?, ?].

References

- [1] Enciso, A., Finkel, F., González-López, A., and Rodríguez, M.A. Solvable scalar and spin models with near-neighbors interactions. *Phys. Lett. B* **605** (214–222), 2005.
- [2] Enciso, A., Finkel, F., González-López, A., and Rodríguez, M.A. Exchange operator formalism for N -body spin models with near-neighbors interactions. *J. Phys. A: Math. Theor.* **40** (1857–1883), 2007.