

Supersymmetric generalization of q -deformed long-range spin chains of Haldane-Shastry type.

We discuss a matrix spin generalization of Ruijsenaars-Macdonald operators. We construct a commuting set of matrix-valued difference operators in terms of trigonometric $GL(N|M)$ -valued R -matrices. Next, we present construction of long-range spin chains using the Polychronakos freezing trick. As a result, we obtain a new family of spin chains, which extends the $gl(N|M)$ -invariant Haldane-Shastry spin chain to q -deformed case with possible presence of anisotropy. Joint work with Andrei Zotov, arXiv:2312.04525.

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