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## A new long range fermionic integrable model.

*Thursday, 7 September 2023 09:00 (50 minutes)*

We are defining and studying a fermionic integrable model which is a long-range version of the XXZ model at  $\Delta = 0$ . The model can be obtained as the  $q=i$  limit of the  $q$ -deformed Haldane-Shastry model studied previously. Unlike its short-distance cousin, and very much like the Haldan-Shastry model, it possesses extended symmetry. The model is non-unitary and has unusual properties. In the even-site case  $N=2L$  all the energies are zero and the spectrum contains Jordan blocks of size up to  $L+1$ . In the odd-site case the one-magnon spectrum is linear.

**Primary author:** SERBAN, Didina

**Presenter:** SERBAN, Didina

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