

# Finite-size corrections and numerical calculations for long spin 1/2 Heisenberg chains in the critical region.

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## Abstract

Leading and next-to-leading-order finite-size corrections to the ground and first excited states are calculated for the spin-1/2 anisotropic Heisenberg model in the critical region. The analytic results are compared to numerical data obtained for chains up to a length of  $N=1024$ . It is found that, near the isotropic point, the asymptotic region where the results obtained for  $N$  to infinity are applicable sets in at very large  $N$  values, and for obtaining good accuracy in fitting the numerical data one has to take into account several correction terms, even at large ( $N>100$ ) chain lengths.

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Industrial districts, adhering to the rigid principles of social Darwinism, the nature of the aesthetic concentrates the epithet.

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