

Abstract Submitted  
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**Coupled one-dimensional magnetic systems: the truncated conformal spectrum approach**<sup>1</sup> YURY ADAMOV, ROBERT KONIK, ALEXEI TSVELIK, Brookhaven National Laboratory — We develop a combined analytical/numerical technique in order to understand coupled, possibly strongly, one dimensional magnetic systems. The approach trades on exact knowledge of the underlying one dimensional subsystem and the concomitant ability to compute exactly matrix elements of operators coupling the subsystems together. With these matrix elements in hand, the fully coupled system is first truncated and then diagonalized numerically. In this way we obtain both the spectrum and correlation functions of the system. The truncation can be improved upon through a renormalization group procedure. As a test case we consider coupled quantum Ising chains.

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