

Abstract Submitted
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Magnetic Susceptibilities of Finite Ising Chains in the Presence of Defect Sites SERGUEI GOUPALOV, University of Utah & Ioffe Institute, DANIEL MATTIS, University of Utah — Any antiferromagnet with zero net magnetic moment exhibits limited response to an external homogeneous magnetic field. This changes dramatically in the presence of defect sites, even those that carry no spin. We examine the excess susceptibilities, longitudinal and transverse, due to one or more defects at arbitrary separations in a finite Ising chain with nearest-neighbor couplings. Adapting matrix methods to finite chains we derive exact formulas valid at all $T \geq 0$.

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