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Wilson ratio of a Tomonaga-Luttinger liquid in the one-dimensional spin-1/2 **Heisenberg antiferromagnet CuPzN** CHRISTOPHER AOYAMA, University of Florida, YOHEI KONO, ISSP, University of Tokyo, KRISTEN MARINO, Pennsylvania State University, HAIDONG ZHOU, University of Tennessee, CHISA HOTTA, University of Tokyo, MARK TURNBULL, CHRISTOPHER LANDEE, Clark University, TOSHIRO SAKAKIBARA, ISSP, University of Tokyo, YASUMASA TAKANO, University of Florida — In the Tomonaga-Luttinger liquid (TLL) phase of a one-dimensional antiferromagnet, the Wilson ratio and the TLL parameter, K, are one and the same except for a trivial numerical factor. This equivalence allows the determination of K from magnetic susceptibility and specific heat. We have performed accurate magnetization and specific-heat measurements on the quasi-one-dimensional spin-1/2 Heisenberg antiferromagnet $Cu(C_4H_4N_2)(NO_3)_2$, known as CuPzN, at temperatures between 80 mK and 7.5 K and in magnetic fields up to 14.7 T and, from the data in the TLL regime, have obtained K as a function of the magnetic field. The results are in excellent agreement with a prediction based on the Bethe ansatz.

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