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*Universal formulas for nonuniversal statistical models*

The critical, nonuniversal properties of the Eight Vertex, Ashkin–Teller and XYZ models are widely expected to be described by the quantum field theory obtained as formal scaling limit. On the basis of this assumption, Kadanoff, Luther and Peschel conjectured universal scaling formulas that relate nonuniversal critical indexes. So far these conjectures had remained unproven. We present a constructive, renormalization-group approach that allows us to prove some of them under the condition of small coupling.

Work in collaboration with G. Benfatto and V. Mastropietro.