

Kopper, Ch.; Meunier, F.

Large momentum bounds from flow equations. (English) Zbl 1027.81022

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Summary: We analyze the large momentum behaviour of 4-dimensional massive Euclidean φ^4 theory using the flow equations of Wilson's renormalization group. The flow equations give access to a simple inductive proof of perturbative renormalizability. By sharpening the induction hypothesis we prove new and, as it seems, close to optimal bounds on the large momentum behaviour of the correlation functions. The bounds are related to what is generally called Weinberg's theorem.

MSC:

[81T08](#) Constructive quantum field theory

Cited in 7 Documents

[81T17](#) Renormalization group methods applied to problems in quantum field theory

[81T15](#) Perturbative methods of renormalization applied to problems in quantum field theory

[81T10](#) Model quantum field theories

Keywords:

4-dimensional massive Euclidean φ^4 theory; Wilson's renormalization group; perturbative renormalizability; Weinberg's theorem

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