

Perturbative Renormalization of Composite Operators via Flow Equations II: Short Distance Expansion

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Received May 21, 1992

Abstract. We give a rigorous and very detailed derivation of the short distance expansion for a product of two arbitrary composite operators in the framework of the perturbative Euclidean massive Φ_4^4 . The technically almost trivial proof rests on an extension of the differential flow equation method to Green functions with bilocal insertions, for which we also establish a set of generalized Zimmermann identities and Lowenstein rules.

Table of Contents

1. Introduction
 2. General Setting
 - 2.1. Definition of the bare interaction; 2.2. The differential flow equation; 2.3. The boundary conditions at $\Lambda = \Lambda_0(D^{(1,2)} \geq 0)$; 2.4. The renormalization conditions ($D^{(1,2)} \geq 0$); 2.5. Perturbative renormalizability
 3. Normal Products and Some (Generalized) Zimmermann Identities
 - 3.1. Generating functionals and their flow equations; 3.2. Definition of bilocal normal products; 3.3. Lowenstein rules, Zimmermann identities
 4. Short Distance Expansion
 - 4.1. Principal part of the short distance expansion; 4.2. Example: The short distance expansion for $\phi(x+y)\phi(x-y)$; 4.3. Asymptotic form of the short distance expansion; 4.4. Concluding Remarks
- Appendix: The proof of Theorem 2

1. Introduction

Wilson's hypothesis [1] of the short distance expansion of products of composite operators plays a rather important role in a variety of contexts in field theory.

* Supported by the Swiss National Science Foundation

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