

Axioms for Euclidean Green's Functions

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Abstract. We establish necessary and sufficient conditions for Euclidean Green's functions to define a unique Wightman field theory.

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1. Introduction

In a relativistic quantum field theory the indefinite metric of Minkowski space causes many problems which could be avoided by replacing the time t by it or the energy E by iE , thereby passing from Minkowski space to Euclidean space. This idea was first used by Dyson [3] in perturbation theory. He continued the Feynman integrands analytically to imaginary energies in order to move the paths of integration away from the mass shell singularities of the causal propagators. Schwinger [21, 22] studied the analytic continuation of time ordered

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