On the Covariant Structure
of the Two-Point Function

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Abstract. The spectral representation of the two-point function for arbitrary fields proposed recently [1] is rigorously proved and analyzed. The problem is treated in momentum space where the covariant structure is simpler because of the spectrum conditions. For finite-component fields the explicit "matrix" structure is found in coordinate space too and is applied to the definition of time-ordered Green functions for arbitrary spin. The decomposition of the two-point function into kernels of definite spin is carried out in the general case, a necessary and sufficient condition for the growth of the coefficients in this decomposition being given. The positive-definiteness condition (in the case of Hermitian conjugate fields) is fulfilled automatically by the elementary kernels.

The formalism of homogeneous distributions in two dimensional complex domain [2] is used throughout the paper.

Contents

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