VII International Conference "Models in Quantum Field Theory" (MQFT-2022)



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Conformal triangles and zig-zag diagrams

A convenient integral representation for zig-zag four-point and two-point planar Feynman diagrams relevant to the bi-scalar

D-dimensional fishnet field theory is obtained. This representation gives a possibility to evaluate exactly diagrams of the zig-zag series in special cases. In particular, we give a fairly simple proof of the Broadhurst-Kreimer conjecture about the values of zig-zag multi-loop two-point diagrams which make a significant contribution to the renormalization group beta-function in 4-dimensional phi^4 theory.

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