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Three-loop mixing matrix for flavor-singlet operators

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Conformal symmetry of QCD is restored at the Wilson-Fisher critical point in noninteger space-time dimensions. Correlation functions of multiplicatively renormalizable operators with different anomalous dimensions at the critical point vanish identically.
We show that this property allows one to calculate off-diagonal parts of the anomalous dimension matrices for leading-twist operators from a set of two-point correlation functions of gauge-invariant operators which can be evaluated using standard computeralgebra techniques. As an illustration, we present the results for the NNLO anomalous dimension matrix for flavor-singlet QCD operators for spin $N \leq 8$.

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