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Three-loop numerical calculation of critical exponents of the directed percolation process

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Directed bond percolation near its second-order phase transition is investigated by the means of the perturbative renormalization group approach. We present a numerical calculation of the renormalization group functions in the ϵ -expansion. Within this procedure anomalous dimensions are expressed in terms of irreducible renormalized Feynman diagrams and thus the calculation of renormalization constants could be entirely skipped. Numerical calculation of integrals has been done on Hybrilit cluster employing vegas algorithm from CUBA library.

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