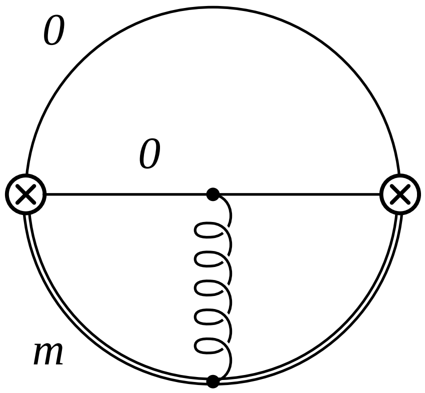
Calculation of three-loop QCD diagrams for massive baryonic correlators

Typical diagram:



Tools: REDUCE and MATHEMATICA

Time: calculation of massless contribution on an Intel P-II 400MHz (64MB memory) under Debian Linux 2.1 took approx. 1 minute

Calculation of massive contributions by hand took approx. a few days

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presented by R. Kreckel

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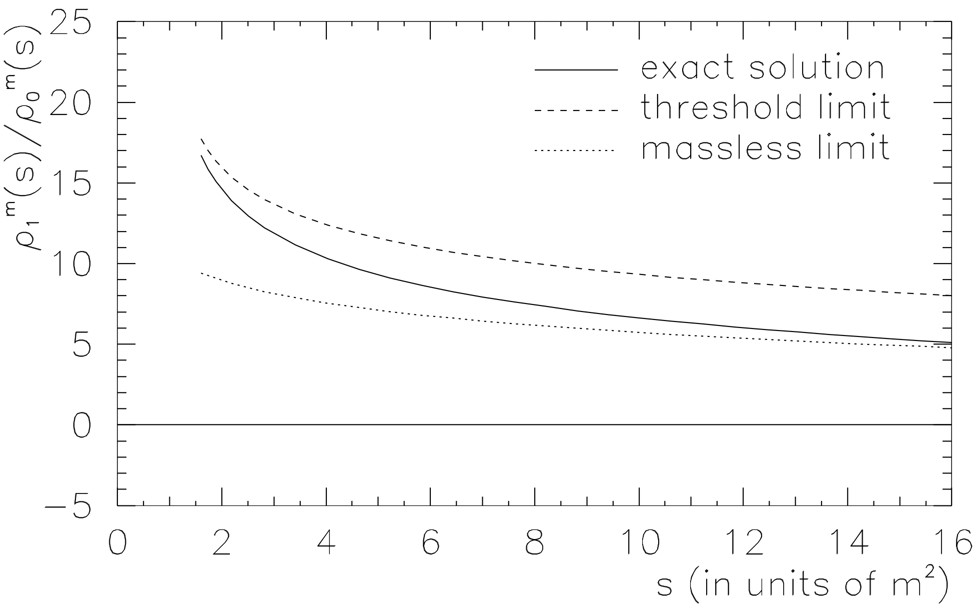
S. Groote, J.G. Körner and A.A. Pivovarov, Phys. Rev. **D61** (2000) 071501(R)

Abstract No. **ABS 49**

Motivation: Diagrams are ingredients for QCD sum rules which have the goal to determine basic quantities of baryons like ground state energy or residues

Observation: Check of the results possible by the observed absorption of UV singularities in multiplicative renormalization factors

Result:



Next: QCD sum rule analysis