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On the quark-gluon vertice

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We report on the quark-gluon vertice in the Landau gauge obtained via the combination of various non-perturbative methods. The vertex takes into account only its longitudinal tensor structures. The longitudinal form factors are strongly enhanced at the infrared region, deviate significantly from the tree level results for quark and gluon momentum below 2 GeV and at higher momentum approach their perturbative values. The computed quark-gluon vertex favours kinematical configurations where the quark momentum p and the gluon momentum q are small and parallel. Further, the quark-gluon vertex is dominated by the form factors associated to the tree level vertex γ_μ and to the operator $2\,p_\mu + q_\mu$. The higher rank tensor structures provide small contributions to the vertex.

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