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## Infrared study of the transversely projected quark-gluon vertex

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We investigate the quark-gluon vertex in unquenched QCD with two degenerate light dynamical quarks in the Landau gauge. By solving its Schwinger-Dyson equation, derived from the 3PI effective action formalism, we determine the eight form factors of the transversely projected vertex in general kinematics. The analysis incorporates lattice data for key ingredients, including the gluon and quark propagators and the three-gluon vertex. To simplify the numerical treatment, we decouple the system of integral equations: the classical form factor is obtained from a single nonlinear integral equation involving only itself, while the remaining ones are computed through simple integrations. Our results reveal a significant angular dependence, and we establish a clear hierarchy at the level of the dimensionless effective couplings, consistent with previous results. Moreover, the classical form factor exhibits excellent agreement with recent unquenched lattice data in the soft-gluon configuration.

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