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The Quark-Gluon Vertex from Lattice QCD at Finite Temperature

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The quark-gluon vertex is an important object of QCD. Studies have shown that this quantity can be relevant for the dynamical chiral symmetry breaking pattern in the vacuum. The goal of our project is to obtain the quark-gluon vertex at finite temperature around the deconfinement/chiral transition using the tools provided by lattice QCD. It will be the first time that the quark-gluon vertex at finite temperature is determined using lattice QCD. The propagators, which are a by-product of this project, are also of interest in themselves. In this poster, we will describe our motivations and goals, some details of the determination and report on the status of the calculation.

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