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Towards the continuum limit of the lattice Landau-gauge gluon and ghost propagators.

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Considerable efforts have been devoted during the last decade to exploring QCD's elementary two-point functions using the framework of lattice QCD. Thereby, much attention has been paid to the gluon and ghost propagators in Landau gauge whose low-momentum behavior has been explored using relatively coarse lattices to reach momenta as low as possible. To ultimately confront such lattice results with corresponding predictions from continuum functional theory, the extrapolation to the continuum limit has to be under control, however. Also, the influence of the Gribov ambiguity needs to be understood, in particular as there are strong indications that this ambiguity has a big impact on these propagators at low momenta. To further clarify this still actively debated issue we have launched a large scale lattice study of this problem in SU(2) gluodynamics, paying special attention to the continuum limit of the gluon and ghost propagators and the associated coupling at a fixed physical volume.

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