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Coherent center domains in local Polyakov loops

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Coherent center domains in local Polyakov loops

We analyze properties of local Polyakov loops using quenched as well as dynamical $SU(3)$ gauge configurations for a wide range of temperatures. It is demonstrated that for both, the confined and the deconfined phases, the local Polyakov loop prefers phase values near the center elements $1, e^{pm2\pi/3}$. We divide the sites of the lattice into three sectors according to these phases and show that the sectors give rise to the formation of clusters. For a suitable definition of these clusters we find that the deconfinement transition manifests itself as the onset of percolation of the clusters.

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talk

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