

Dense 2-colour QCD towards the continuum limit

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We report on simulations of 2-colour QCD with $N_f=2$ Wilson fermions at nonzero chemical potential and temperature. We present results for the diquark condensate, Polyakov loop and quark number density on finer lattices than those previously reported, as well as ongoing simulations with smaller quark masses. Our results confirm the existence of a “quarkyonic” phase at high density, while the putative low-temperature, high-density deconfinement transition appears to recede as the continuum limit is approached. There are indications of a BEC region opening up at intermediate chemical potentials as the quark mass is lowered.

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