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Chiral condensate in nf=2 QCD from the Banks-Casher relation

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Exploiting the Banks-Casher relation, we present a direct determination of the chiral condensate in two-flavor QCD, computing the mode number of the O(a)-improved Wilson-Dirac operator below various cutoffs. We make use of CLS-configurations with three different lattice spacings in the range of 0.05-0.08 fm and pion masses down to 190 MeV. Our data indicates a finite density of eigenmodes near the origin and hence points to spontaneous chiral symmetry breaking. We extrapolate our results to the continuum and chiral limit to give a result for the chiral condensate.

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