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## Constraints on the Dirac spectrum from chiral symmetry restoration and the fate of $U(1)_A$ symmetry

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I discuss chiral symmetry restoration in the chiral limit of QCD with two quark flavours of mass m, focussing on its consequences for scalar and pseudoscalar susceptibilities, and on the resulting constraints on the Dirac spectrum. I show that  $U(1)_A$  symmetry remains broken in the  $SU(2)_A$  symmetric phase if the spectral density  $\rho(\lambda; m)$  develops a singular near-zero peak, tending to  $m^4/\lambda$  in the chiral limit. Moreover,  $SU(2)_A$ restoration requires that the number of modes in the peak be proportional to the topological susceptibility, indicating that such a peak must be of topological origin.

Primary author: GIORDANO, Matteo (Eotvos University, Budapest)Presenter: GIORDANO, Matteo (Eotvos University, Budapest)Session Classification: QCD at non-zero temperature

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