



# XXIV QUARK MATTER DARMSTADT 2014

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## Sign Structures of Susceptibilities of Conserved Charges in the (2+1) Polyakov Quark Meson Model

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The rich sign structures of cumulants of conserved charges in the critical region are investigated in a QCD like model- the (2 + 1) flavor Polyakov Quark Meson model. We compute all susceptibilities of the conserved charges on the  $\mu_B - T$  plane upto fourth order and a few even higher orders. By varying the mass of the sigma meson, we are able to study and compare scenarios with as well as without a critical point. In the hadron-quark transition regime we identify certain correlations that turn negative unlike expectation from ideal hadron resonance gas calculations. These remain negative deep into the hadronic side and thus could be accessible to experiments. Measurements of such quantities in the heavy ion collision experiments can throw light on the location of the QCD transition curve as well as the critical point.

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