



XLVII International Symposium on
Multiparticle Dynamics (ISMD2017)
September 11-15, 2017, Tlaxcala City, Mexico

Contribution ID : 92

Type : **not specified**

Using the LSMq to describe the QCD phase diagram and to locate the CEP

Monday, 11 September 2017 17:40 (0:05)

Content

We study the QCD phase diagram using the linear sigma model coupled to quarks (LSMq). We compute the effective potential at finite temperature and baryon density up to ring diagrams order. We show that, provided the parameters for the pseudo-critical temperature (for $\mu^B = 0$) and critical chemical potential μ_c^B (for $T = 0$) are taken as $T_c \simeq 155$ MeV and $\mu_c^B \simeq 1$ GeV, together with the vacuum sigma and pion masses, the model couplings can be fixed and that these in turn help to locate the region where the crossover transition line becomes first order.

Session

Poster sessions

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Session Classification : Flash Talks