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Hadron resonance gas is bad model for hadronic matter in strong magnetic field

We study the effect of magnetic field on particle ratios and charge fluctuations in hadron resonance gas. We argue that the big change in the pion to proton ratio is due to ill-defined description of higher-spin states, and that because of detailed balance, neutral resonances must be affected by the field too. The calculated fluctuations of conserved charges are likewise suspicious and must be treated with care.

Reference: arXiv:2405.15745

Category

Theory

Collaboration (if applicable)

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Track Classification: Correlations & fluctuations