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## Thermal-model-based characterization of heavy-ion-collision systems at chemical freeze-out

*Tuesday, May 18, 2021 11:30 AM (20 minutes)*

We investigate the chemical freeze-out in heavy-ion collisions (HICs) and the impact of the hadronic spectrum on thermal model analyses [1, 2]. Detailed knowledge of the hadronic spectrum is still an open question, which has phenomenological consequences on the study of HICs. By varying the number of resonances included in Hadron Resonance Gas (HRG) Model calculations, we can shed light on which particles may be produced. Furthermore, we study the influence of the number of states on the so-called two flavor freeze-out scenario, in which strange and light particles can freeze-out separately. We consider results for the chemical freeze-out parameters obtained from thermal model fits and from calculating net-particle fluctuations. We will show the effect of using one global temperature to fit all particles and alternatively, allowing particles with and without strange quarks to freeze-out separately.

[1] P. Alba et al. Phys.Rev.C 101 054905 (2020)

[2] R. Bellwied et al. Phys.Rev.C 99 034912 (2019)

### Collaboration

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