Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

Hadronic resonances and the chemical-freeze out in heavy-ion collisions JAMIE STAFFORD, Univ of Houston, PAOLO ALBA, Lucht Probst Associates, VALENTINA MANTOVANI-SARTI, Technical University of Munich, JACQUELYN NORONHA-HOSTLER, University of Illinois Urbana-Champaign, PAOLO PAROTTO, University of Wuppertal, ISRAEL PORTILLO, CLAUDIA RATTI, Univ of Houston — The influence of hadronic resonances on the chemical freeze-out in heavy-ion collisions is investigated in this study [1]. Detailed knowledge of the hadronic spectrum is still an open question, which has phenomenological consequences on the study of heavy-ion collisions. In this work, we determine the effect of varying the number of particles in the system on thermal fit parameters. We make use of several different hadron lists, including those that consider experimentally observed and theoretically predicted states, in order to provide a complete picture. The freeze-out parameters are extracted from thermal fits of particle yields and net-particle fluctuations, both calculated within the Hadron Resonance Gas model. We find that additional resonances tend to decrease the freeze-out temperature while exhibiting a mild effect on the baryonic chemical potential. We also note that the inclusion of heavier resonances is not sufficient to eliminate the gap between the light and strangeness freeze-out conditions. [1] P. Alba *et al.* Phys.Rev.C 101 (2020) 5, 054905

Jamie Stafford
Univ of Houston

Date submitted: 22 Jun 2020 Electronic form version 1.4