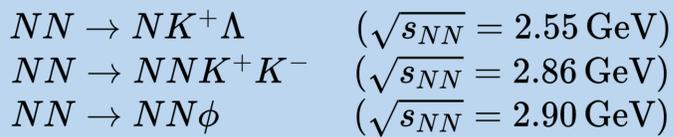
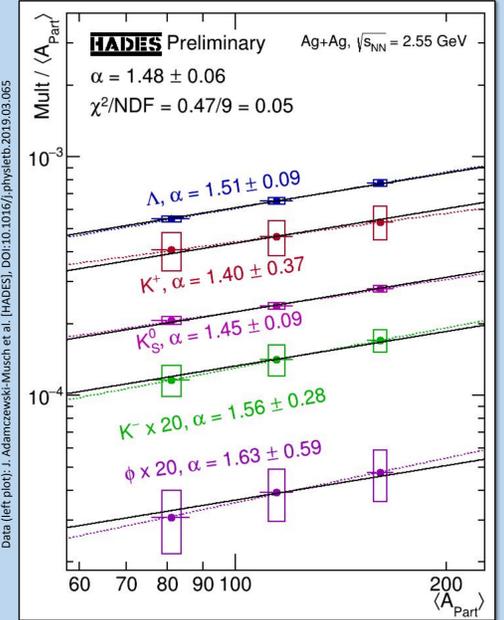
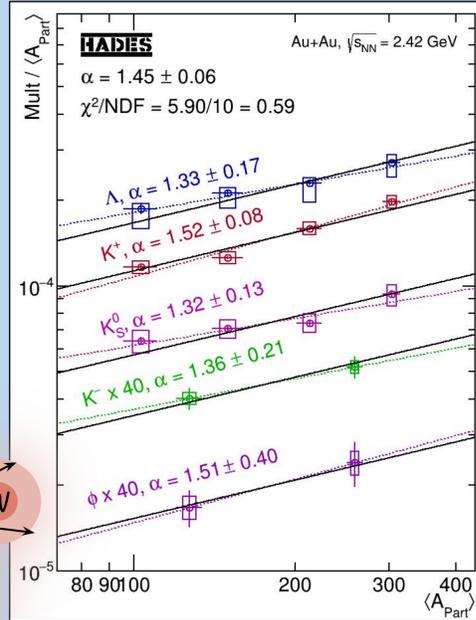
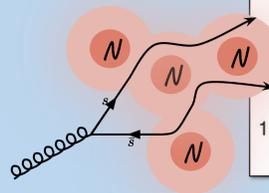


Motivation

- Different energetic production thresholds for various hadrons containing strangeness:



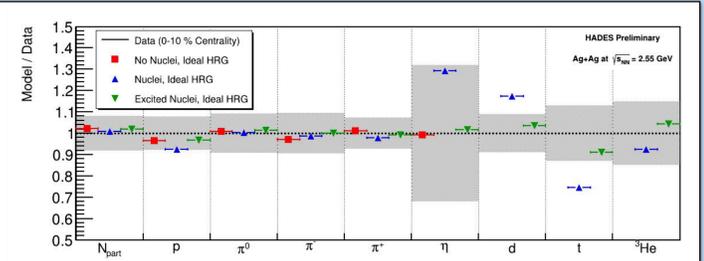
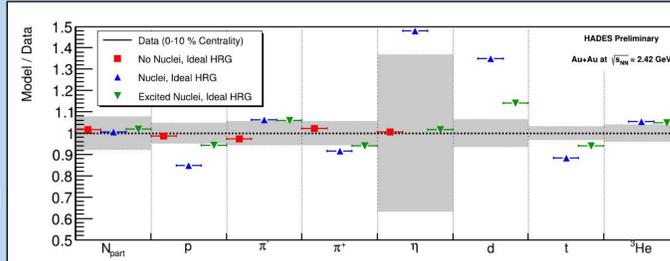
- Different hadron production thresholds should reflect in A_{part} scaling of yields ($Mult \propto \langle A_{part} \rangle^\alpha$)
- Observation: universal scaling behaviour in Au+Au and Ag+Ag
 - Associated $s\bar{s}$ production and percolation along the strongly overlapping pion clouds [1]?
 - Thermal production?



[1] K. Fukushima et al., DOI: 10.1103/PhysRevD.102.096017

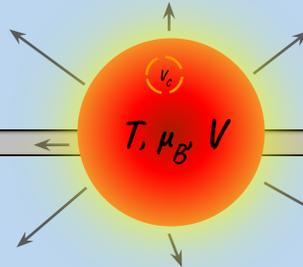
Statistical Hadronisation Model

- Thermal-FIST [2] provides reasonable description of data
- Cases without light nuclei (■) and with excited light nuclei feed down (▼) show comparable and best global χ^2 values
- Case of light nuclei without excited light nuclei feed down (▲) offers poor description
- No light nuclei case (■) uses small particle list and presents with large uncertainties
- No second minimum in χ^2 as function of T observed [3]



Au+Au 2.42 GeV	No Light Nuclei	Light Nuclei	Light Nuclei + Exc. States
T [MeV]	65 ± 5	75 ± 2	68 ± 2
μ_B [MeV]	825 ± 29	798 ± 2	779 ± 3
V [fm ³]	3645 ± 2572	1870 ± 215	3731 ± 404

Ag+Ag 2.55 GeV	No Light Nuclei	Light Nuclei	Light Nuclei + Exc. States
T [MeV]	74 ± 6	81 ± 3	75 ± 3
μ_B [MeV]	781 ± 26	751 ± 4	739 ± 4
V [fm ³]	2038 ± 1345	1390 ± 274	2252 ± 383

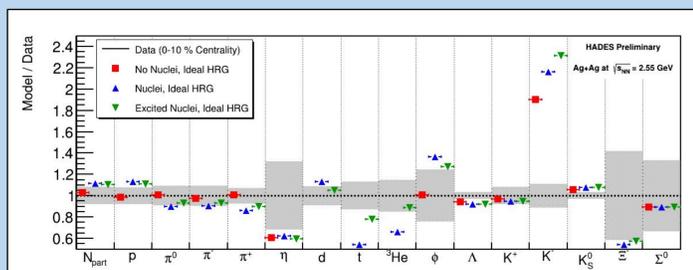
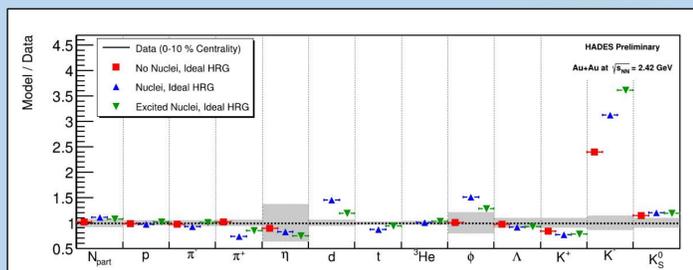


[2] V. Vovchenko et al., DOI:10.1016/j.cpc.2019.06.024

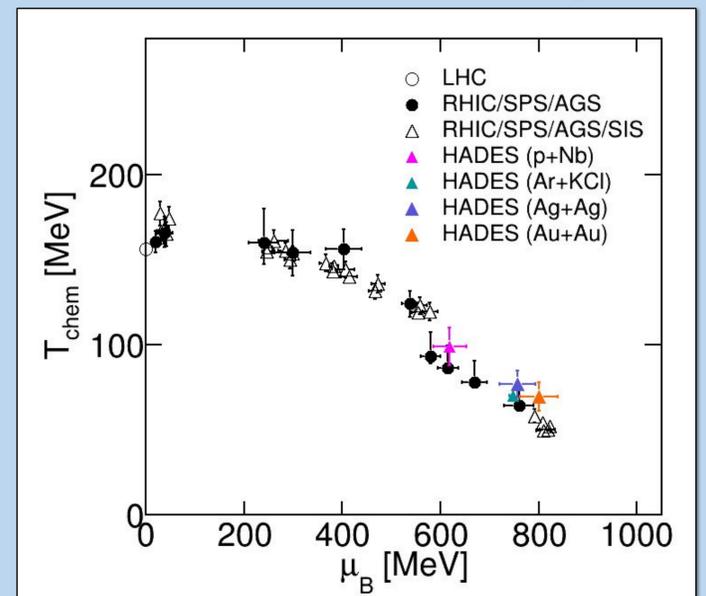
[3] A. Motornenko et al., DOI:10.1016/j.physletb.2021.136703

Inclusion of Strangeness

- Fit performed using single canonical suppression factor R_C
- Similarly reasonable descriptions based on cases presented above
- Thermal description of non-equilibrated system proves difficult
- Description of ϕ/Ξ^- and ϕ/K^- ratios with same parameterisation results in large χ^2 -values



The QCD Phase Diagram



○ A. Andronic et al., DOI:10.1038/41586-018-0491-6
● A. Andronic et al., DOI:10.1016/j.nuclphysa.2006.03.012
△ J. Cleymans et al., DOI:10.1103/PhysRevC.73.034905