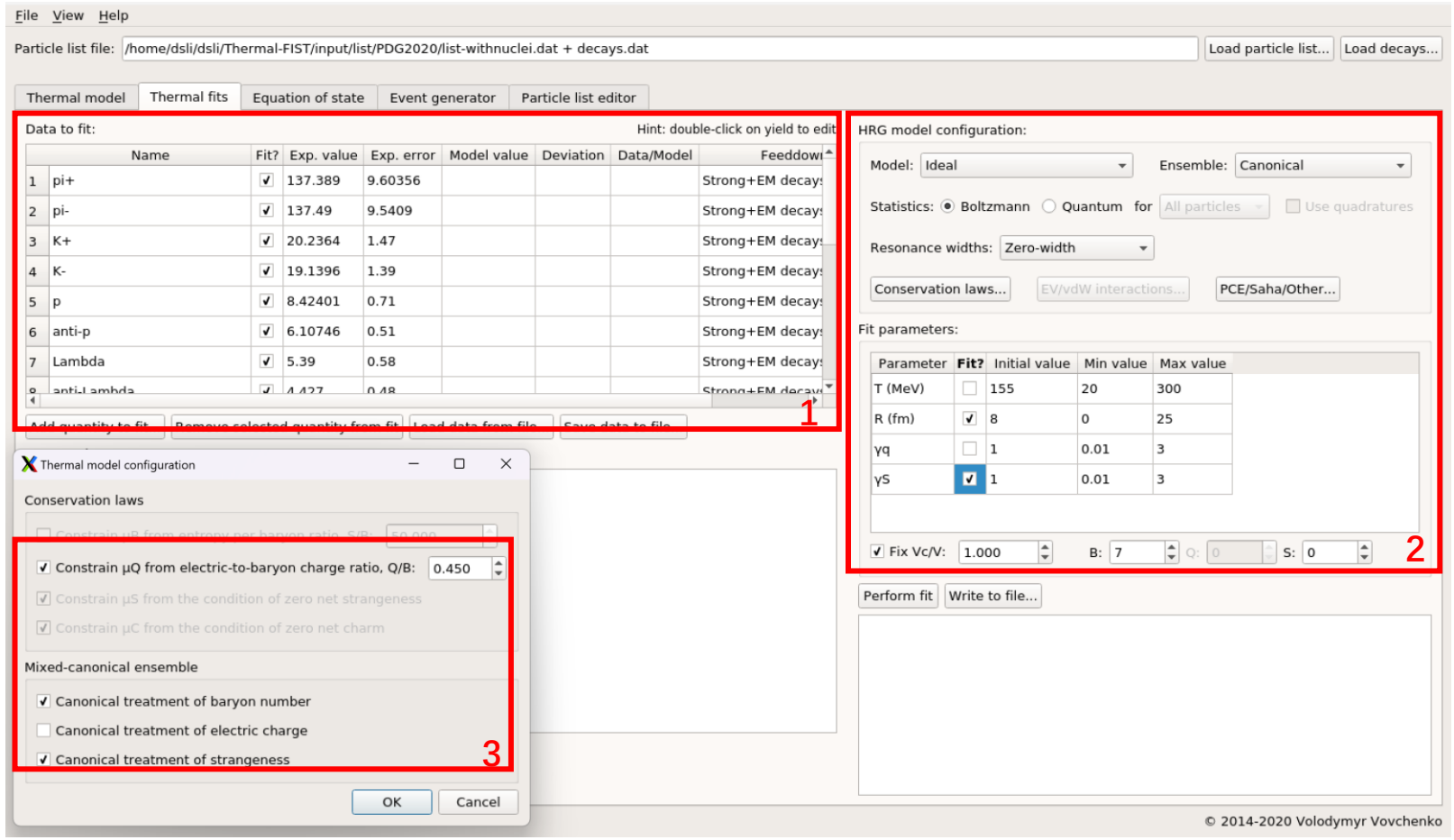
# Thermal-Fist




Part 1:
set experimental data, feed-down source (we use hadrons only)

Part2/3:
Model configuration

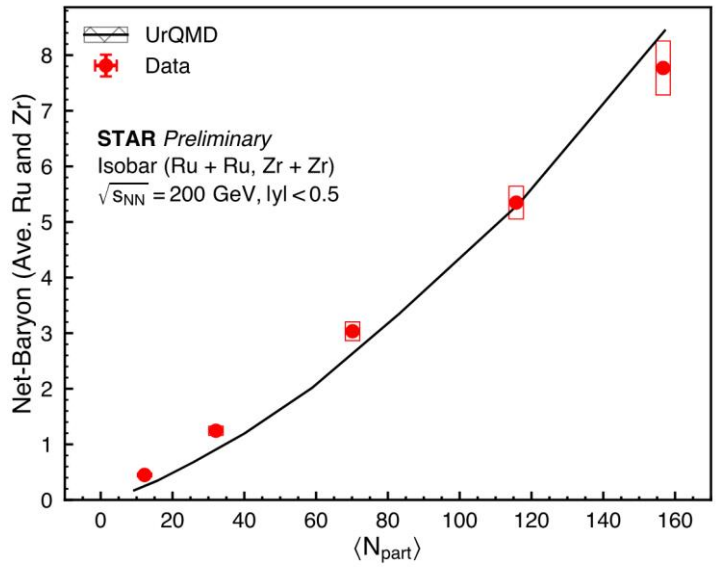
Model: ideal gas (the only option for CE)
Ensemble: CE/GCE
Statistics: Boltzmann/Quantum
(Resonance Width)

Conservation laws:
Correlation Volume(Vc)
Number of conserved charges in Vc

# Thermal-Fist in Isobar

Default configuration:

Ideal gas model
CE(for BS)
Boltzmann statisitcs
T fixed at 155 MeV
gamma_q fixed at 1
Vc/V fixed at 1




T = 155 MeV
muB = 24.5982 MeV
muS = 4.95871 MeV
muQ = -0.354968 MeV
gammaq = 1
gammaS = 0.997641
V = 986.888 fm^3

Particle density = 0.328393 fm^-3
Net baryon density = 0.00700232 fm^-3
Net baryon number = 6.91051
Net electric charge = 3.10973
Net strangeness = 2.14604e-14
E/N = 0.948813
S/B = 333.859
Q/B = 0.45
S/|S| = 1.79869e-16

chi2/ndf = 23.6924/7 = 3.38462

Model accuracy = (14.60 ± 8.30) %

Calculation time = 93 ms

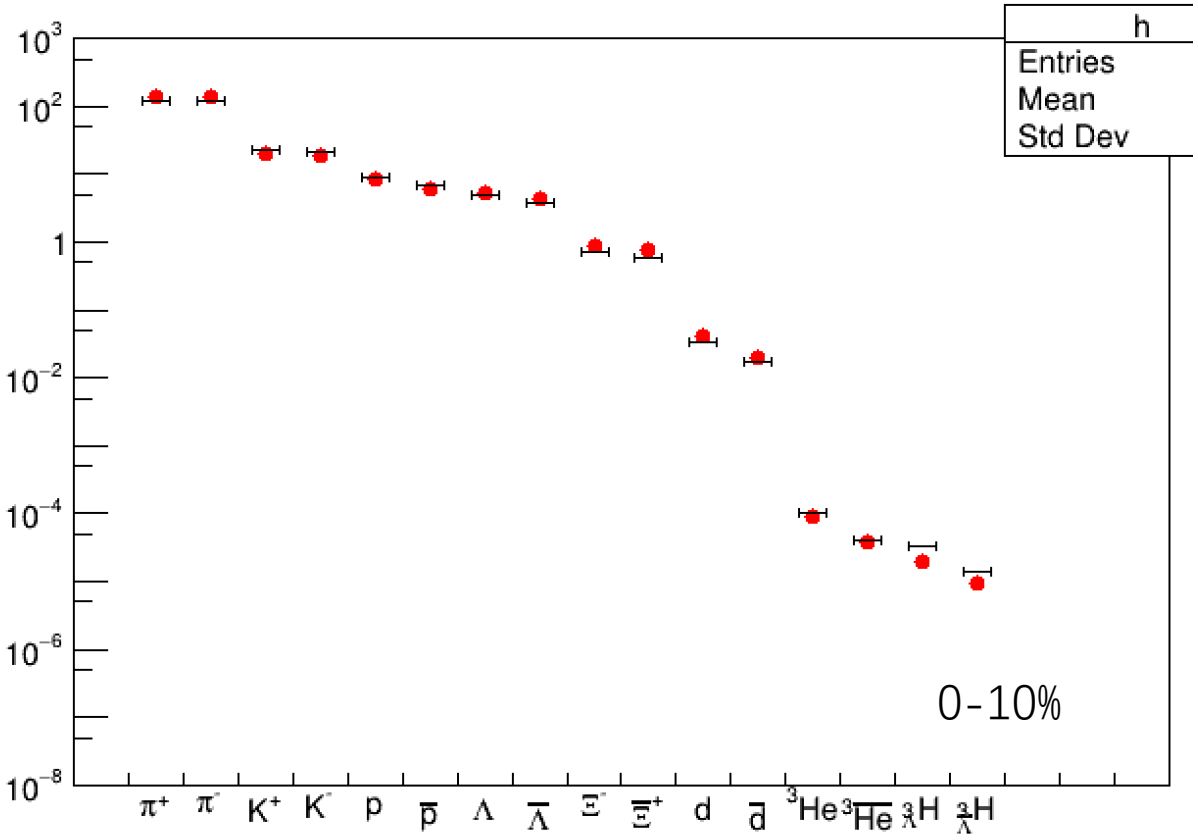
---

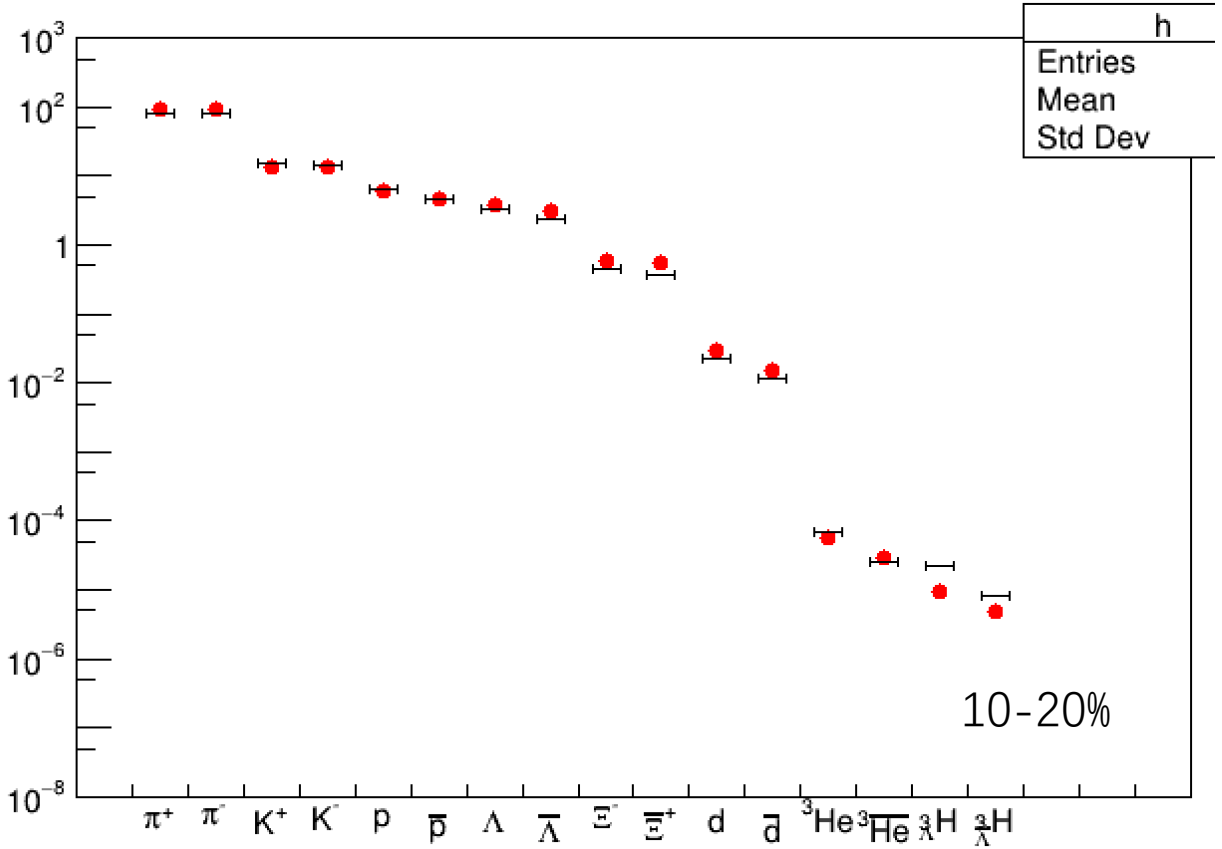
Number of conserved charges:
S=0

| net-B | 0-10% | 10-20% | 20-40% | 40-80% |
|---|---|---|---|---|
| (within V) | 7 | 5 | 3 | 1 |
| Npart | 156.675 | 115.75 | 70.075 | 22.156 |

Two consistent ways:
1) Refer to the baryon stopping measurement
2) Use 0-10% GCE fit to extract net-B number → Scale to other centralities with Npart

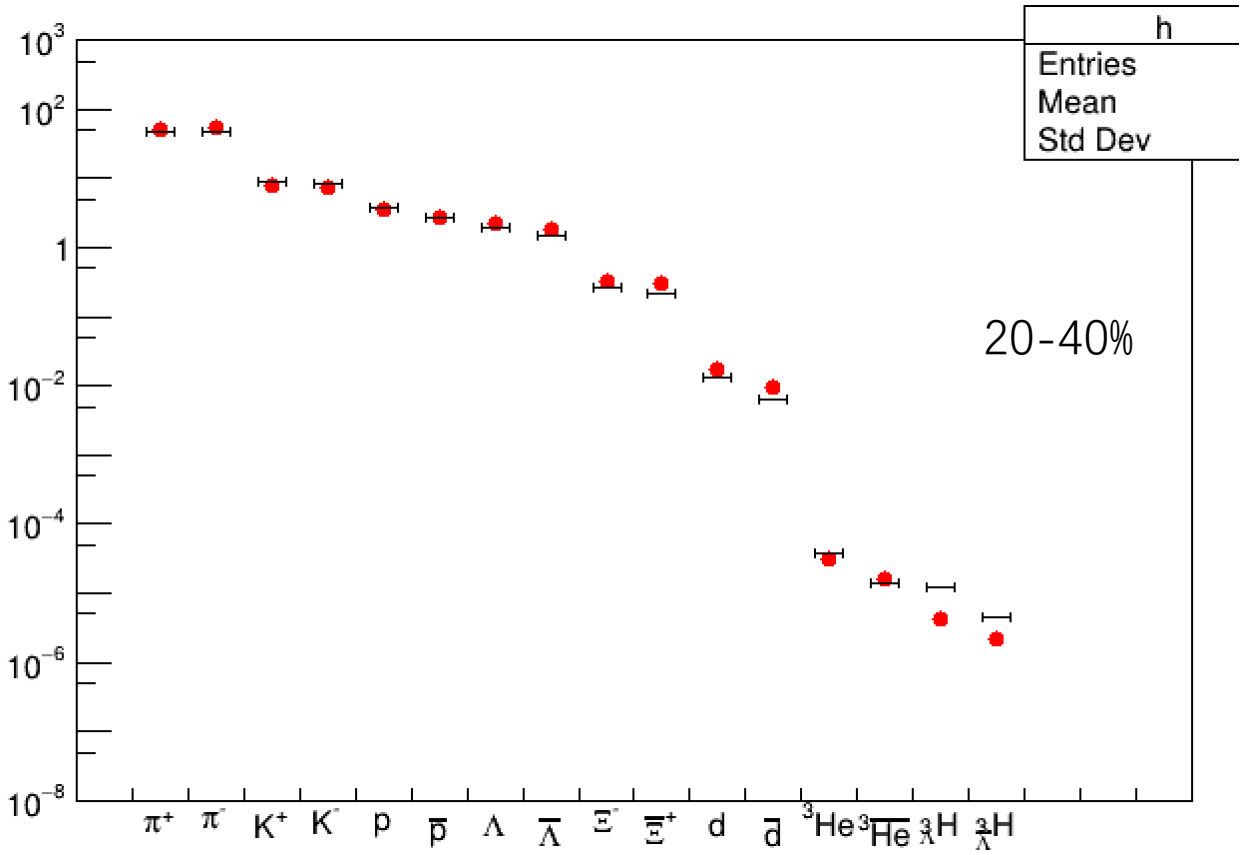
# Thermal-Fist in Isobar

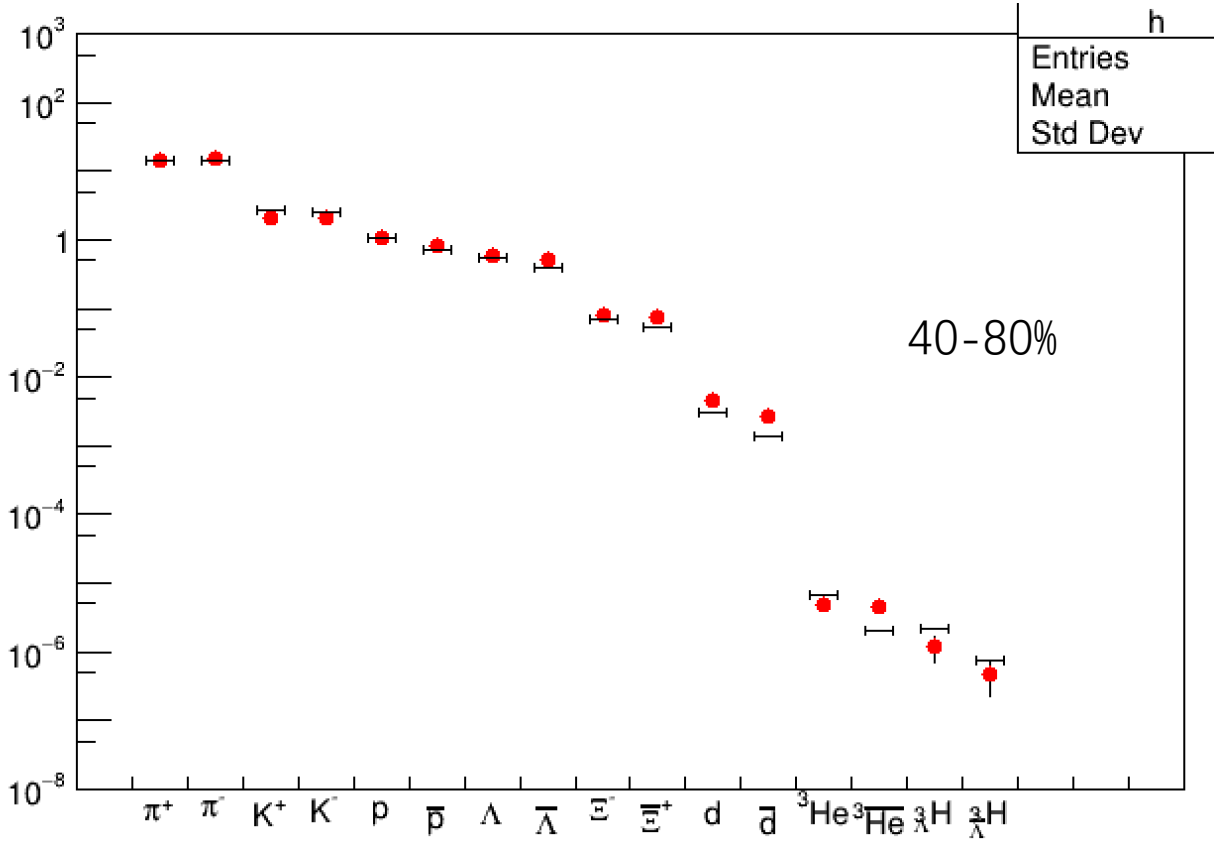



Default configuration

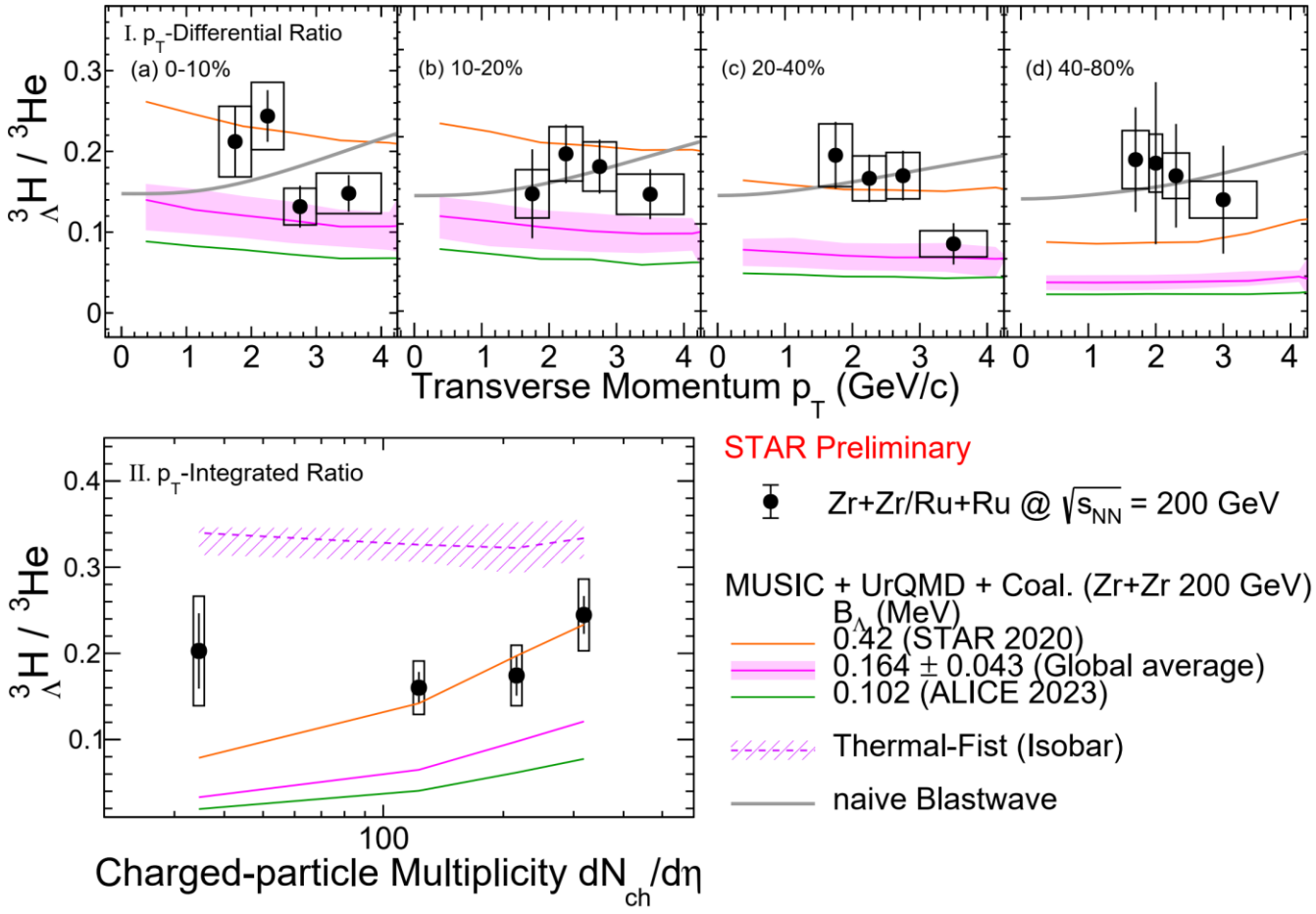
# Thermal-Fist in Isobar




Default configuration

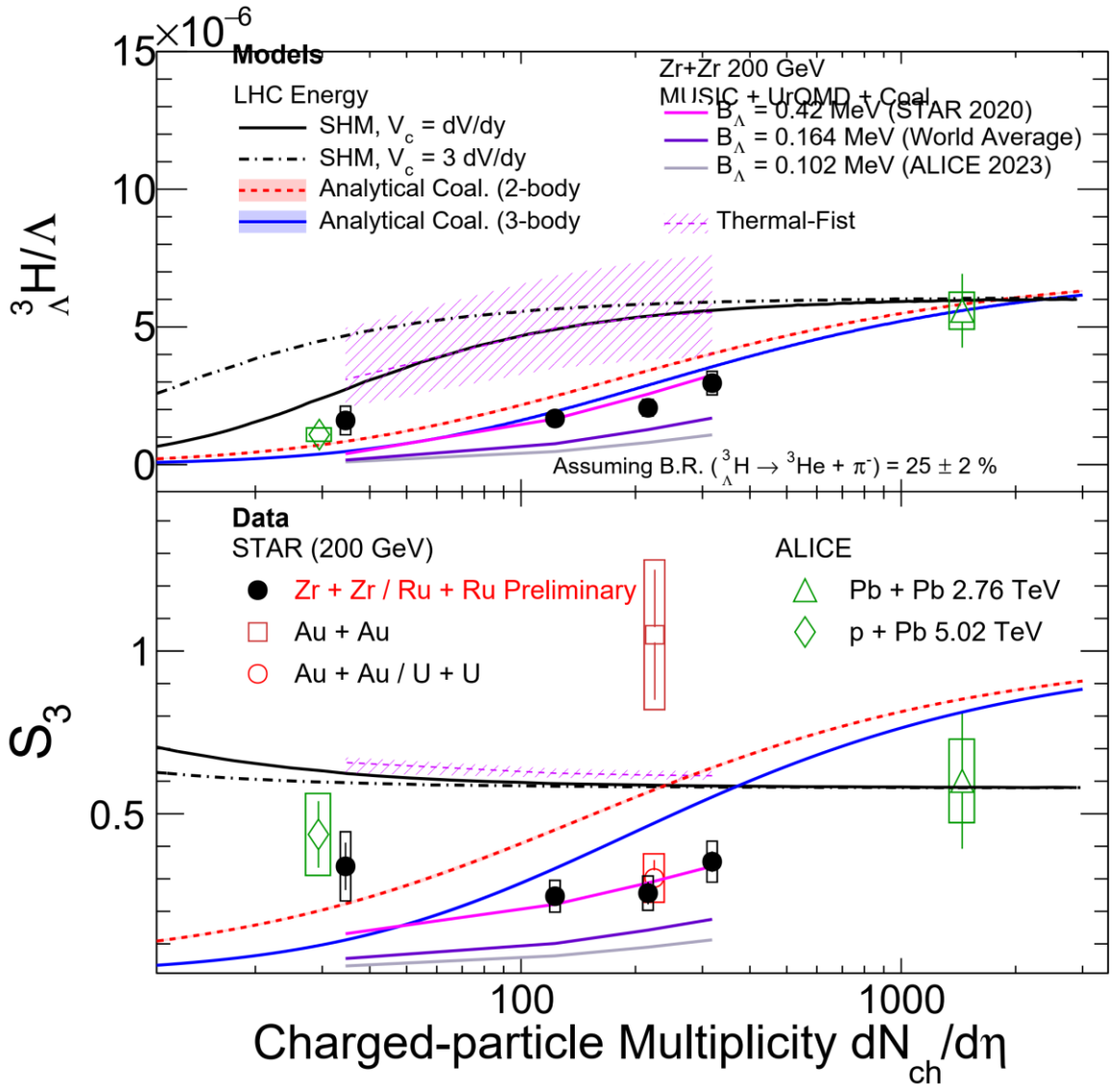
# Thermal-Fist in Isobar




Error band come from different model configuration:

- Statistics (classic/quantum)
- T (fixed at 150/155/160)
- Vc/V (fixed at 1/3, or free)

# Thermal-Fist in Isobar




Error band come from different model configuration:

- Statistics (classic/quantum)
- T (fixed at 150/155/160)
- Vc/V (fixed at 1/3, or free)