Discussion – Resonance Session

Hadronic Resonances
interactions
in partonic and hadronic phase

Resonances

Existence of hadronic phase:
Larger in more central collisions (t ~10 fm/c)
(T_ch ~160 MeV → T_kin ~100 MeV)

Signals from chiral symmetry/partonic medium might survive.

Other observables are affected by hadronic phase

Observables effected by hadronic phase

Yields:

Proton and anti-proton annihilation

→ Chemical freeze-out temperature changes by +10 MeV (6 MeV) (Becattini et al.)

Correlations:

Particles going though resonance generation in hadronic phase (e.g. $\Delta \rightarrow p+\pi$, lifetime ~1.7 fm/c)

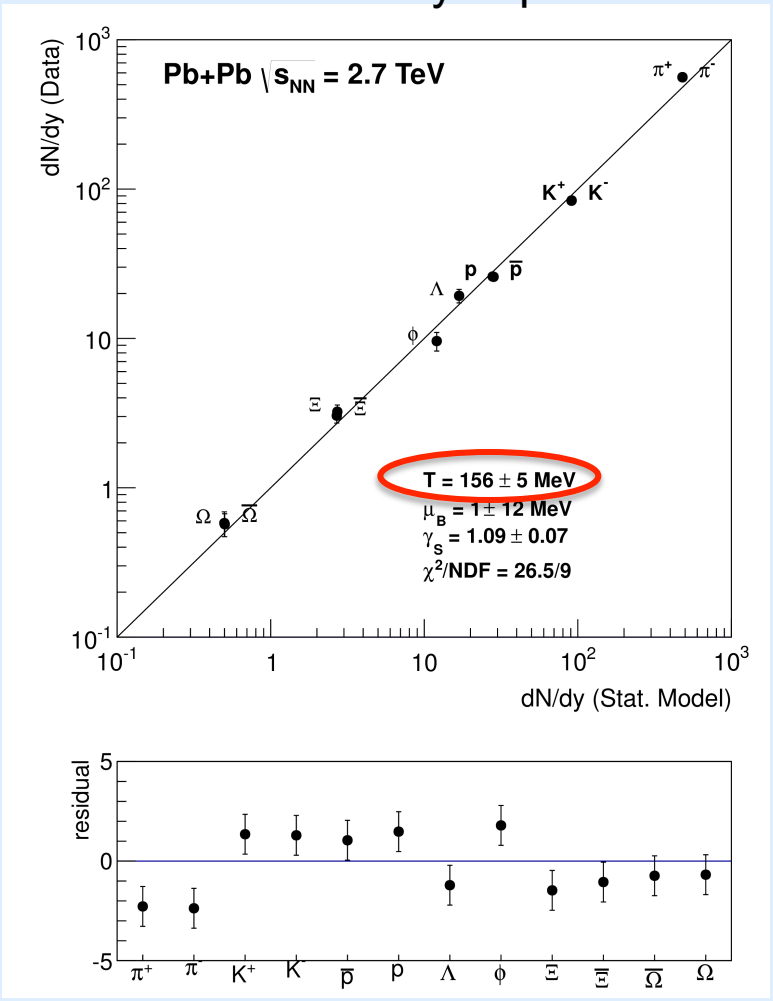
→ Correlations from early phase are diluted ~50% - J. Steinheimer We 10-10:30

Influence of Hadronic Phase on stable particles

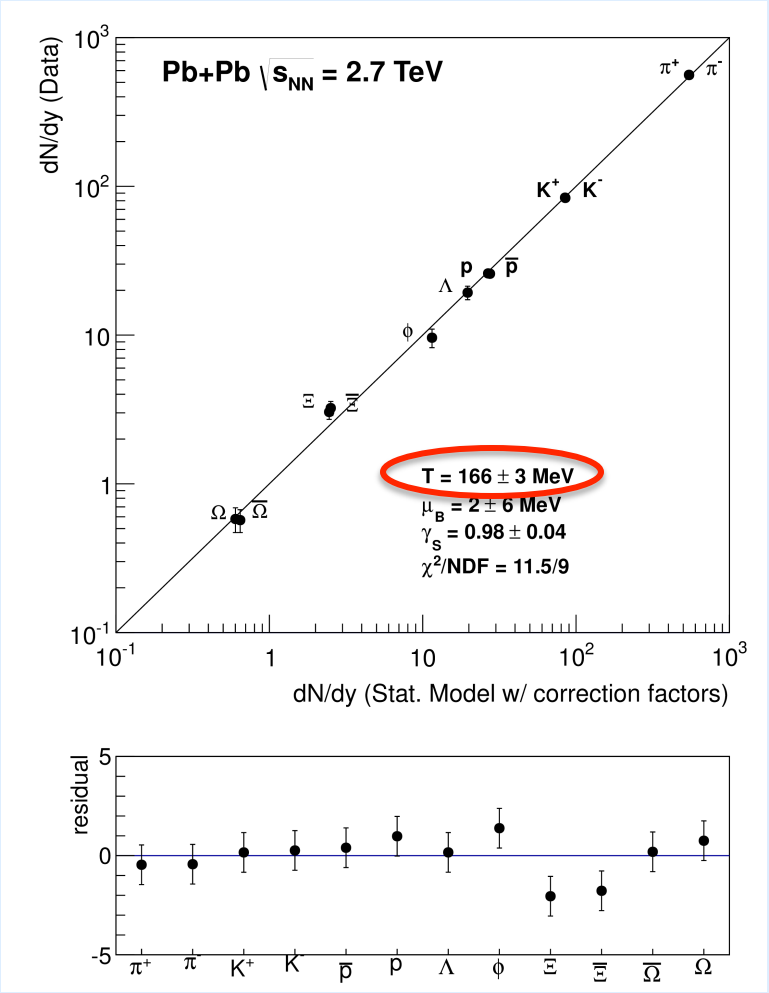
F. Becattini, E. Grossi, M. Bleicher, J. Steinheimer, R. Stock, Phys.Rev. C90 (2014)

Statistical model + hadronic phase (UrQMD) yield corrections

Yields measured by experiments



Corrected yields (HP)



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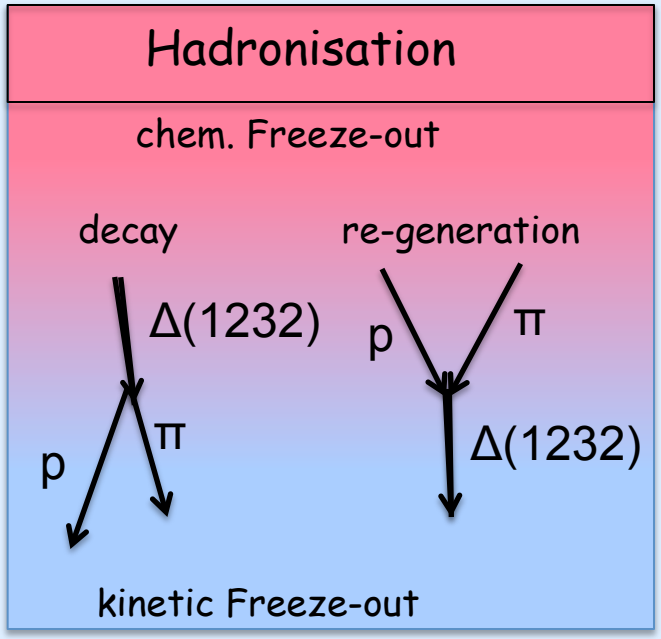
Resonance interaction in hadronic medium

central
A+A collision



Life-time [fm/c]

ρ(770)	= 1.3
Δ (1232)	= 1.7
K(892)	= 4
Σ(1385)	= 5.7
Λ(1520)	= 13
ϕ (1020)	= 44

Statements

Hadronic phase is longer in collisions with larger particle multiplicity (~10fm/c)

Important to understand hadronic phase

→Take hadronic phase interactions into account.