Lambda and Anti-Lambda Production in central Pb+Pb Collisions at 40, 80, and 158AGeV

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- Editorial Committee has formed up
  Members: Reinhard, Peter, Kreso, Michiel, Christoph

- Proceed to draft05 (available in ~amischke/group/PAPER)

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Structure of the Paper

- **Introduction** (revised by Reinhard):
  - strangeness enhancement
  - C -> GC ensemble (can. suppression)
  - energy dependence of s production

- **Technical part:**
  - NA49 experimental setup
  - Data-sets (# events, cross sections,...)
  - V0 reconstruction / Quality cuts
  - $m_{\text{inv}}$ spectra (mass resolution) -> fig.1
  - Corrections (geo. acceptance and reconstruction effi., background, feed-down)
  - systematic errors / feed-down

- **Results:**
  - mT-spectra -> fig. 2
  - rapidity distributions (shapes) -> fig. 3 + tab.
  - comparison with other results: WA97, NA45
  - total yields (extrapolations)
  - energy dependence (pp <-> AA) -> fig. 4

- **Comparison with model predictions**, HGM, UrQMD, HSD (also for antiL)

- **Summary**
Feed-down Correction

- Main contribution from: $\Xi^0 \rightarrow \Lambda \pi^0 (100\%)$
  $\Xi^- \rightarrow \Lambda \pi^- (100\%)$

- Make a full Simulation for $\Xi^-:$
  - Simulation using NA49 results on $\Xi^-$ (from Rob): $T=267\text{MeV}$, $\sigma_y=1$
  - $\sim150,000$ single reconstructed events (w/o embedding)
  - Run them through the quality cuts ($x,y_{\text{targ}},...$)
Feed-down contribution from $\Xi^-$

• In total: \((\text{decay Lambdas/event}) / (\text{raw real Lambdas/event}) = 0.0036/0.14 \sim 2.6\%\)

• Differential:

![Graph showing feed-down contribution in %]

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