Summary Discussions on LBS Line

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Thanks to
C. Carli, L. Hein, A. Lombardi, B. Mikulec, F. Regis, T. Zickler et al.
for two very constructive meetings.

Summary

- Motivation: “Feasibility of cooling the LBS spectrometer magnet?”
  - First proposal - New design of spectrometer magnet (φ=54° and h=100mm)
  - Alternative - Transfer Line (TL) bending magnet (φ=35° and h=50mm)

- Two meetings organised by C. Carli
  - 18.02.2011 - Focus on physical options
    → http://cern.ch/carli/PSBwithLinac4/Meeting11_02_18/Minutes11_02_18.html
  - 11.03.2011 - Slit and dump (engineering, RP, CE), follow-ups on physical options
    → Minutes will be published soon

- ⇒ Four classes of scenarios for LBS line

	Slit	Spectrometer	Quadrupole	Dump
1	yes	new	no	reduced
2	yes	TL	no	reduced
3	no	new	yes	full
4	no	TL	yes	full

Summary II

- Scenarios studied regarding reconstruction of mean energy and energy spread
  - No physical justification to favour one scenario
  - Energy spread resolution of ±10% acceptable PSB injection
- ⇒ Assessment of dump design issues
  - Design, thermodynamics, engineering
  - Involvement of RP
  - Participation of civil engineering (for dump installation in ceiling or in wall to PSB)
- ⇒ First ideas on slit design from an engineering/resource point of view
  - More input required
- Heavy ion option for LBS line always taken as constraint

Conclusions

- TL bending magnet allows for sufficient measurement precision
  - Integration study for LBS/BI/LBE region required
- Continue slit studies (to same extent as dump) to compare two packages
  - Slit and reduced dump ⇔ no slit and full dump

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- ⇒ Goal: Presentation on future L4BCC meeting to provide all information
  - Physics, engineering, RP, integration, civil engineering, costing, ….
  - Time scale about two months
- ⇒ Evaluation and decide to advance with which scenario