

SPL Architecture & Parameter Space

F. Gerigk, 5th SPL collaboration meeting,
25/26 Nov. 2010

Overview

- general parameters,
- conclusions from last meeting,
- R&D with impact on the architecture,
- further R&D program,

Low/high-current SPL (4 MW)

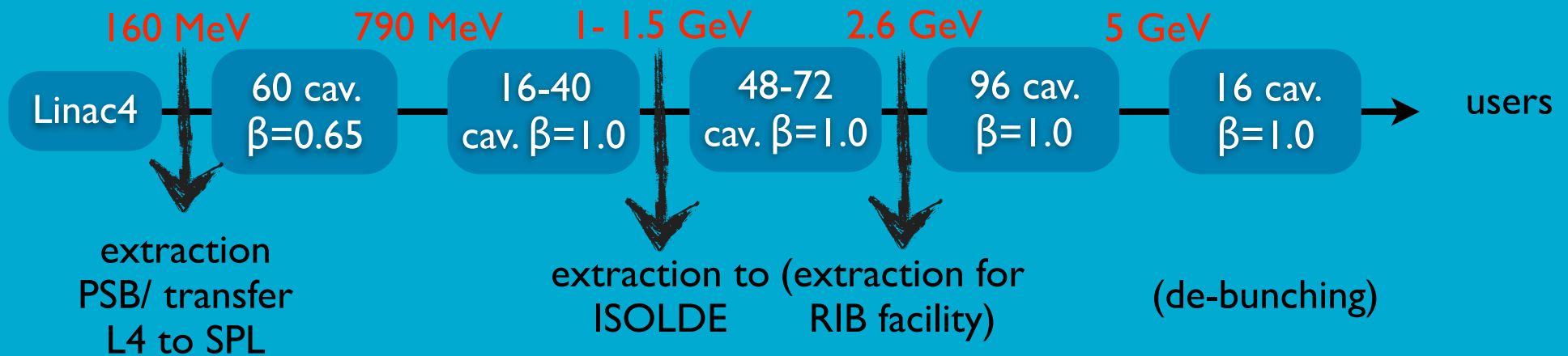
low-current
(20 mA)

high-current
(40 mA)

filling time (total) $\beta=0.65$	0.75 ms	0.37 ms
filling time (total) $\beta=1$	0.76 ms	0.38 ms
beam pulse length	0.8 ms	0.4 ms
RF pulse length (fill+flat top) $\beta=0.65$	1.55 ms	0.78 ms
RF pulse length (fill+flat top) $\beta=1$	1.56 ms	0.78 ms
beam duty cycle	4%	2%
RF duty cycle	7.8%	3.9%
cryo duty cycle	8.2%	4.1%

other parameters

- operational parameters the same as for the 4th collaboration meeting (June/July 2010 in Lund),
- cavity and cryo parameters (nominal/ultimate scheme) also remain unchanged!



R&D with potential impact on the SPL architecture

- **Beam dynamics:** mixture of doublet & FODO focusing (M. Eshraqi),
- **Beam dynamics:** H- stripping (P. Posocco),
- **HOMs:** choice of cavity betas (M. Schuh),
- **RF system:** RF amplifiers (E. Montesinos),
- **RF system:** RF layout, LLRF (W. Hoefle/M. Hernandez Flano)

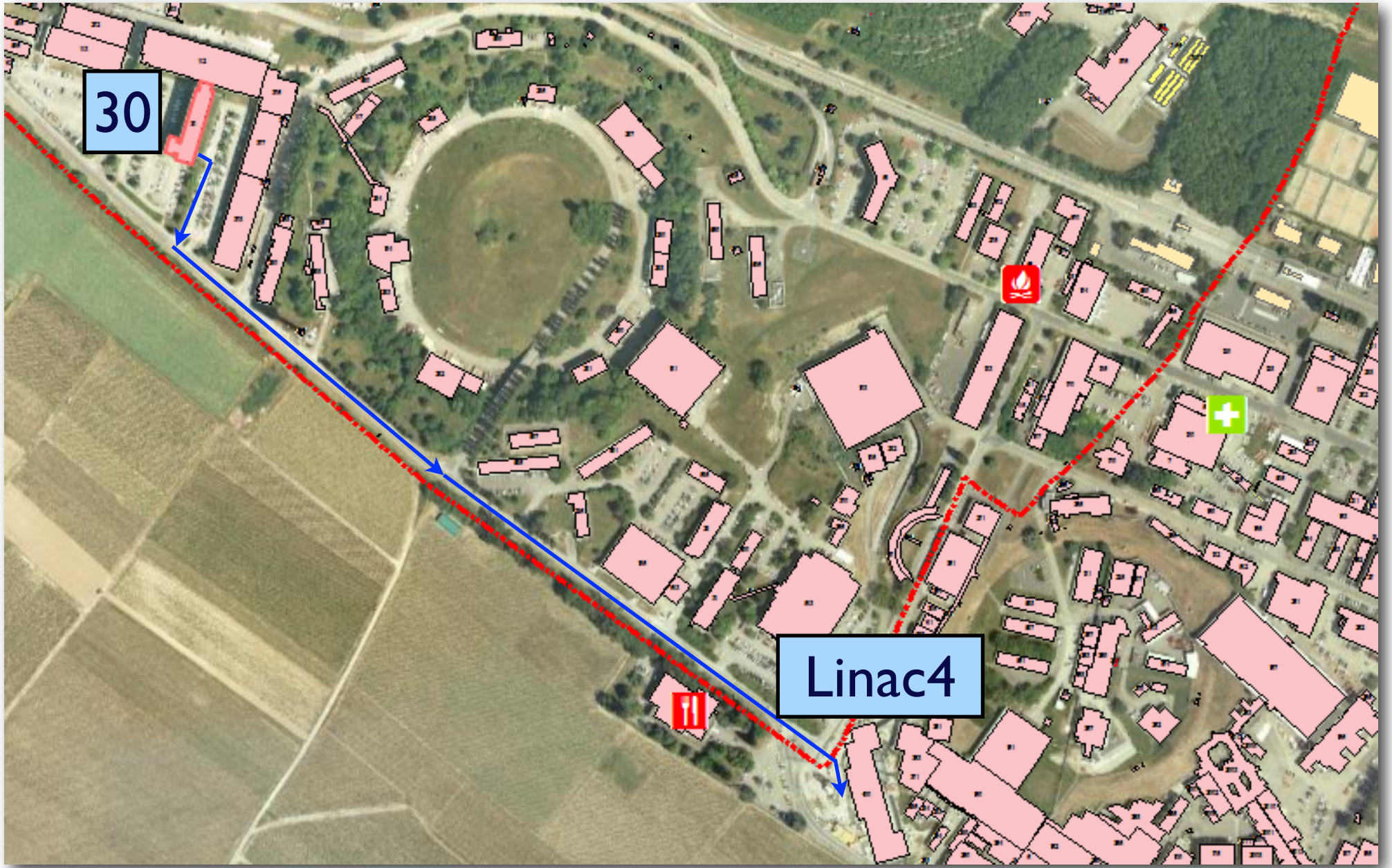
R&D

main focus now on construction of 4-cavity cryo-module (preparation for a 5 GeV, 4 MW proton driver):

- preparation & launch of cavity fabrication,
- preparation of high-power test stand in SMI 8,
- design of the 4-cavity cryo-module,

Linac4 tour

- After the conclusions on Friday (~17:00) we meet at the entrance of building 30 and walk to the Linac4 building.
- Please sign up for the tour at the speakers desk.



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Linac4