

Minutes of the SPL steering group

meeting no. 6

date: 13 February 2008

present: S. Calatroni, R. Garoby, F. Gerigk, R. Losito, W. Weingarten

Agenda

1. Cryogenic temperature and RF frequency
2. "On the optimisation of the conceptual design of the SPL", W. Weingarten
3. Next meeting

1. Cryogenic temperature and RF frequency

F. Gerigk: The follow-up paper to the talk "2K or not 2K", given by Campisi at Linac'06, suggests the following conclusions:

- at 700 MHz, there should be no difference in maximum reachable gradients for pulsed operation (even for CW!) when considering operation at 2 K or 4.2 K
- there are probably reduced running costs, when running a 704 MHz linac with SPL duty cycle at temperatures lower than 4.2 K. However, one does not need to have superfluid helium to reach this cost optimum. This means that if we stay at 704 MHz, it is very likely that the cryogenic installations can be simplified considerably and that the installation becomes cheaper.
- link to the paper: <http://prst-ab.aps.org/pdf/PRSTAB/v10/i3/e032001>

S. Calatroni points out that the slope of the SPL is much more annoying when dealing with superfluid helium. The cryo-system and distribution should become much simpler for "normal" helium.

2. "On the optimisation of the conceptual design of the SPL", W. Weingarten

W. Weingarten presented [some preliminary results](#) on the electrical power needs for the SPL (RF system plus cryogenics). Furthermore he reviews the cavity performances reached at SNS and DESY. Concerning the power needs there seems to be little difference in consumption for 2 K or 4.2 K, while there is an increased consumption towards lower frequencies. Already for 700 MHz, the consumption increases by ~25% when compared to 1400 MHz (see last slide). The study was done for a fixed repetition rate of 50 Hz and will be refined in the coming weeks.

3. Next meeting

March, 14th, 2008, 16:00, 865-1-B03

-- FrankGerigk - 26 Nov 2007

This topic: SPL > SPLSG13February2008
Topic revision: r3 - 2008-03-17 - FrankGerigk



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