

**Minutes of the Linac4 Diagnostics Working Group Meeting held on 18 February 2008**

**Present:** E.Bravin, C.Dutriat, K.Hanke, T.Lefevre, M.Pasini, U.Raich, E.Sargsyan.

**Agenda:**

1. Communications
2. Follow-up of open actions
3. Status of movable bench
4. AOB

**1. Communications**

**2. Follow-up of open actions**

**Action for U.Raich** to develop a controls strategy for the chopper line wire scanners, and for the diagnostics in general. As for the wire scanners, the movement will be controlled by a PLC. Tests are in progress for the CERN ADC card. They may develop another small card for test purposes. As soon as a final decision is taken, it will be reported to this meeting. Action closed.

**Action for U.Raich** to start the design of a movable bench. See **3.**.

**Action for G.Tranquille** to do simulations for the emittance meter slit at 3MeV and 12MeV. G.Tranquille not present. It was suggested to give this task to some students in ATB.

**Action for T.Lefevre** to determine slit tolerances for the emittance meter at 3MeV and 12MeV. See previous point.

**Action for B.Goddard** to provide specs for the BLMs in the PSB injection period. No news.

**Action for U.Raich** to produce an EVM document for Linac4 diagnostics. U.Raich asked what the deadline is. The deadline was end of January. It will be completed in the next couple of weeks.

**Action for U.Raich** to produce a mandate for the contribution of the BI group to the Linac4 project and communicate it to M.Vretenar. Same comments as above; open.

**Action for U.Raich** to produce a budget breakdown per year and communicate it to M.Vretenar. Same comments as above; open.

**Action for M.Pasini** to clarify the alignment for the beam diagnostics. M.Pasini has not yet discussed with F.Gerigk. It was agreed that this is an issue, as the magnets will be aligned via the "clavette" w.r.t. their magnetic center. The pick-ups are attached to the quadrupoles. An offset of the pick-ups can be corrected in the software, but for this their absolute position must be known. The magnet design is needed in order to progress on this issue.

**Action for B.Dehting** to specify the number and location of BLMs. The preliminary distribution of BLMs agreed at the last meeting will be kept as a base line. Y.Cuvet is adding the BLMs to the drawings.

**Action for U.Raich** to prepare a cost comparison between CEA and CERN fabrication of movable diagnostics bench. See below.

**Action for G.Tranquille** to clarify feasibility of 0.75mm wire spacing of SEM grid for emittance meter. G.Tranquille not present. C.Dutriat says that a spacing of down to 0.35mm has been achieved (by external company). Closed.

**Action for K.Hanke** to ask for an official request by the core team to clarify the responsibilities for the development of Linac4 application software. K.Hanke has listed the applications needed for Linac4 diagnostics and sent a prioritised list to J.Serrano. The response from AB/CO is that no work will be done on Linac4 applications due to lack of resources. K.Hanke will raise the matter with the core team. A general approach is needed as not only diagnostics is concerned. There has been no core meeting in the last 2 weeks, but the matter will be brought up at the next meeting.

**Action for R.Scrivens** to contact R.Principe and C.Rossi to remind them about compressed air system. No news.

**Action for B.Dehning** to contact C.Rossi concerning rack space needed for the BLMs. B.Dehning has sent an e-mail to C.Rossi. Closed.

**Action for Y.Cuvet** to add BLMs to the Linac4 drawings. No news.

**Action for E.Sargsyan** to provide a detailed beam loss distribution along Linac4. In progress. E.Sargsyan suggests to put BLMs in any available location (after every module) in the CCDTL as his simulations show beam loss all along this part of the linac.

**Action for M.Eshraqi** to provide a detailed beam loss distribution along the Linac4-PSB transfer line. No news.

### 3. Status of movable bench for DTL commissioning

U.Raich reports that work is in progress. He is studying the equipment to be added on the bench. An important issue is the energy desposition of the beam in the equipment (slits etc). ATB has 2 students who can do simulations. U.Raich will present some preliminary results at the next meeting.

### 4. AOB

T.Lefevre asks whether TIS have a model of radiation impact on persons. A presentation on the simulations and the shielding requirements has been given at the machine review committee.

-- KlausHanke - 19 Feb 2008

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