Minutes of the Linac4 Diagnostics Working Group Meeting held on 22 October 2007

Present: E.Bravin, C.Dutriat, K.Hanke, T.Lefevre, F.Lenardon, B.Mikulec, M.Pasini, U.Raich, R.Scrivens

Agenda:

1. Communications

2. Follow-up of open actions

3. Status of the inter-module lay-out

4. Status of the emittance meter, time planning

5. Rack space and cabling needs for 3MeV test place

6. AOB

1. Communications

There will be a LInac4 review in weeks 5, 9 or 10. To be confirmed.

M.Vretenar has sent around the latest version of the budget table. The budgets need to be confirmed by the responsibles (U.Raich for diagnostics).

Assigned to	Start date	Description	State	Result	
U.Raich	2007-10-22	Confirm/update Linac4 diagnostics budget		not completed - now obsolete.	edit

K.Hanke reported briefly on the test run of the BSHM in Orsay in week 42. The monitor worked well in the accelerator environment. The transverse characteristics could be confirmed, while the time resolution could not be verified with the beam parameters available. M.Hori is preparing a detailed report.

2. Follow-up of open actions

Action for C.Vuitton and Y.Cuvet to produce working drawings of the profile monitors. C.Vuitton has sent by e-mail the information that they manage to include all the mechanics within a space of 100mm on the beam axis, DN63 flange included. Y.Cuvet has not yet produced a drawing but will produce a first iteration in the beginning of November.

Action for U.Raich to develop controls and read-out for the wire scanners in the chopper line. U.Raich has discussed the matter with J.Serrano. Different options are on the table (PLC, VME). The choice will be influenced by the cost but also by standardization. VME will be used anyway in different parts of the linac. There is a slight preference for the use of VME because of support. J.J.Gras needs to be involved in the discussion. For the next meeting J.J.Gras and J.Serrano will be invited. J.Serrano should do a market survey.

Action for U.Raich to communicate the rack space needed for instrumentation of the 3MeV part to C.Rossi. Completed.

Action for E.Bravin to draft a time planning for the emittance meter. Only a very rough, obsolete planning exists. D.Gerard will produce and communicate an up-to-date planning.

Action for U.Raich and C.Dutriat to make a technical choice for the horizontal and vertical SEM Grids. One possibility is to have both planes measured at the same time, which means to have both horizontal and vertical

wires on the same support. This requires a high number of read-out channels which increases significantly the cost. A simultaneous horizontal and vertical measurement is not absolutely required. Alternatively horizontal and vertical wires can move in one after the other, but on the same support. This is mechanically the simplest solution. U.Raich will check with C.Vuitton. For the SEM grid in the LEBT this may not be possible due to space constraints (the tank is already being built). Action closed.

3. Status of the inter-module lay-out T.Lefevre suggested the use of laser wire scanners as profile monitors. The technique is interesting, but there are maintenance and space issues. It will not be possible to squeeze a laser wire scanner into 100mm on the beam axis.

U.Raich noted that the layout of the pickups has been overworked. He will send slides and a link for the minutes.

M.Pasini met someone from RAL who is working on diagnostics based on laser stripping. This could be an option for emittance diagnostics at the end of the linac. However, the exact beta function needs to be known if one wants to deduce the emittance from a profile measurement. M.Pasini will summarize the information on one slide for the next meeting

4. Status of the emittance meter, time planning See follow-up of open actions. R.Scrivens noted that control and read-out of the emittance meter should be addressed at the next meeting with CO and BI/SW. As for application programs, K.Hanke will talk to E.Hatziangeli and JFComblin.

Assigned to	Start date	Description	State	Result	
K.Hanke	2007-10-22	Organise the application programming		reported 19 November 2007	edit

5. Rack space and cabling needs for 3MeV test place See follow-up of open actions

6. AOB U.Raich reported on the presentation by C.Deibele on SNS diagnostics.

R.Scrivens suggests to put together an EDMS approval list for the specs of the low-energy part. The following names were agreed on: U.Raich, T.Lefevre, L.Soby, E.Bravin, J.J.Gras, G.Tranquille, R.Scrivens, K.Hanke, M.Pasini.

K.Hanke reminded that there is a request from F.Gerigk to provide the following information: Are survey targets and flat surfaces needed on pick-ups and transformers? Are there flat surfaces and targets for wire-scanners and SEM grids? Are the pick-ups always combined with the combined quad/steerer?

Assigned to	Start date	Description	State	Result	
U.Raich	2007-10-22	Collect the information on alignment and communicate it to F.Gerigk		Soby/Lefevre/Bravin reported 19 November 2007	edit

Next meeting in 2 weeks from now.

-- KlausHanke - 29 Oct 2007

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