16. February 2004

Summary of meeting on mechanical layout of ADT around IP4

Meeting: 16 January 2004:

Present:

C. Rathjen (AT-VAC), W. Hofle (AB-RF)

On Friday 06.02.2004 a meeting was held between AB-BDI group (Ch. Boccard), AB-RF group (W. Hofle) and AT-VAC (Ch. Rathjen, G. Schneider). The meeting took place at the request of the BDI group in order to clarify the mechanical layout and beam pipe diameters in the vicinity of the LCHADT (dampers) to which BPMW pick-ups will be attached according to the presently valid layout. As a follow-up Ch. Rathjen proposed by email some changes in the layout in order to be able to use standard vacuum equipment in this region. The following is a summary written by W. Hofle about this discussion between W. Hofle and Ch. Rathjen, which took place on February 16, 2004.

1) Wolfgang explained that any changes in the layout of the RF as for example on drawing LHCLJ4GA0004, requires an ECR (RF link person: V. Rodel). Currently the installation of "dust traps" is considered in this region and Wolfgang proposed that a future ECR include all modifications. The dust-trap project will be presented to the LTC in the near future, a decision is expected in about four weeks. Originator for the dust-trap proposal is J. Tuckmantel (AB-RF) and a proposal has been worked out by J. Borburgh and B. Balhan (AB-BT). The length of the object is approximately 400 mm.
2) Presently ADTH and ADTV cover a length of 8217 mm. Mechanically this length is split into three parts: two damper modules and a free space in between (217mm). Each damper module is made up of two kickers of 1600 mm length and a vacuum pipe of 800 mm length provided by AT-VAC. Instead of the 800 mm vacuum pipe one could use the available space for the dust-traps or the BPMW pick-ups. It was decided earlier to put the BPMW pick-ups outside the space reserved for the damper. The option of putting the dust-trap onto the available space on the damper support should be followed up by the people responsible for this device.
3) Ch. Rathjen proposes to move one of the damper systems such that a standard 200mm or 300mm interconnect piece can be used. If 300 mm of space is left the interconnect piece can contain a pumping port. A 200 mm interconnect piece is too short for having a pumping port. As the decision depends on the installation or option of having pumps, J.M. Jimemenz should propose the decision.
4) The interconnecting pieces of 200 mm and 300 mm contain a shielded bellows, a rotatable flange on one end, and tapers to other diameters (if required). The 200

mm interconnect could be directly connected and supported by the damper kicker tanks or the 800 mm long tube. BPMW pick-ups (285 mm long, 63 mm inner diameter), would be supported separately. In the case of a 300 mm interconnect with option of attached pumps, the damper kickers would have to support an extra 50 kg approximately. This needs some study.

5) It should be clarified if there are further elements to be integrated (BDI monitors?) before the ECR is generated. Ch. Rathjen mentions that another source of carbon could be the special carbon absorbers which will be attached to the beam screen in the D3 magnet. This is done because the magnet is not operated at 1.8 K requiring this type of absorber to improve the vacuum.

6) The following is a tentative list of actions

- **Miguel:** decide on vacuum layout (pumps, diameters etc…)
- **AB-RF:** get the approval for the dust trap within one month
- **AB-RF and AB-BT:** after dust trap approval, finalize its specification and decide where to install it and how to support it mechanically
- **Everybody:** Generate input for the ECR for approval of new layout