

Geneva, 27 November, 2002

## MEMORANDUM

*A/To:* E. Blackmore, M. Craddock, TRIUMF  
*De/From:* R. Assmann, J.B. Jeanneret, CERN; D. Kaltchev, TRIUMF  
*Concerne/Subject:* Proposal of a work plan for D. Kaltchev in 2003

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The design of the LHC collimation system has now entered into a critical phase. A modified collimation system based on low Z materials is required and is presently being studied in a newly created "Project LHC Collimation". Final design choices must be made in 2003 in order to assure that an operational collimation system is available for the LHC start-up in 2007. Dobrin Kaltchev (TRIUMF) is a key member of the project team and we will rely on his expertise for the required re-design of the cleaning insertions IR3/7 and related studies.

Now, as the development of the DIMAD/STRUCT code has been completed (report finished) and a comparison between different codes (report to be written) has provided an excellent base for future studies, we propose the following preliminary work plan for 2003 (in order of priority):

1. Optics and system work:
  - a) Evaluate constraints on maximum collimator length and number of collimators (input to design choices).
  - b) Re-design of insertions IR3 and IR7, once a material has been selected and the length of collimators have been fixed. Support by T. Risselada.
  - c) Optimize the number and positions of collimators. Support by J.B. Jeanneret.
2. Study of a collimation system with "ultimate robustness" by adding primary collimators (with R. Assmann):
  - a) Required number of secondary collimators.
  - b) Performance (single and multi-turn) of such a system.
  - c) Can it be implemented into the LHC insertions 3 and 7?
3. Cleaning efficiency versus various imperfections. This work is done in parallel to CERN work and is required to specify tolerances once the design of collimator jaws and cleaning insertions has been completed.

The work must be performed in close contact with the CERN project team and should involve frequent visits to CERN. A 1-month visit to CERN after 2 months of remote work at TRIUMF is proposed for 2003 (a total of 4 months). The exact dates should be adjusted to the overall work progress.