



LHC Collimation Project



Home of the Project for the LHC Collimation System

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External Review of LHC Collimation Project

(AB Project on LHC Collimation)

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| Place and date: | <p>The external review of the LHC Collimation project takes place at CERN on the following dates:</p> <p style="text-align: center;">June 30th, 14h30 to July 2nd, 16h00</p> <p>The conference room for the open part of the review is: 40-S2-A01</p> <p>The presentations on Wednesday and Thursday are open to all interested colleagues from in- and outside CERN. For organizational reasons a prior registration will be requested.</p> <p>Help for organizational matters Juliette Thomashausen Help for scientific part Ralph Assmann</p> <p>Information on accomodation in CERN Hostels.</p> |
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| Charge: | <p>The committee should look into all aspects of the LHC collimation system and consider the following questions:</p> <ul style="list-style-type: none"> ▪ Are the baseline assumptions for the collimation design reasonable? (minimal allowed beam lifetime, peak and average loss rates, impact models, betatronic and momentum-induced losses, ...) ▪ Have the LHC collimation requirements been specified thoroughly and completely? ▪ Does the phased approach of the LHC collimation system address the requirements? ▪ Are the basic hardware choices correct and what problems should be expected (e.g. radiation damage to graphite)? ▪ Is the detailed engineering solution adequate or can any problems be identified? ▪ Are the preliminary thoughts on collimation set-up and operation reasonable? ▪ Where should additional focus be put for future work? <p>A final report shall be prepared and delivered to Steve Myers and Ralph Assmann.</p> |
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| External committee members: | A. Drees | BNL | RHIC collimation design and operation |
| | G. Federici | ITER International Team | Experience with carbon-based materials in fusion research |
| | J. Frisch | SLAC | Advanced collimators for Linear Colliders |
| | T. Markiewicz | SLAC | Linear Collider collimation, background to experiments |
| | N. Mokhov | FNAL | Collimation design and simulation (TEVATRON, SSC, ...) |
| | M. Seidel (chair) | DESY | HERA collimation design and operation, TESLA collimators, vacuum design |
| | V. Shiltsev | FNAL | TEVATRON operational experience and performance upgrades |
| | N. Simos | BNL | SNS collimators and targets |
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| | <i>Representative Phase 2 Collaboration (US-LARP)</i> | | |
| | T. Raubenheimer | SLAC | Accelerator design, NLC project |
| Agenda: | Talks should be prepared for the time listed in brackets in order to have sufficient time for discussion. Drafts of the talks will be distributed to the committee members a week before the review takes place (by June 23). | | |
| | Program in file format: PPT PDE | | |
| | Wednesday June 30, 40-S2-A01 (open session) | | |
| | | | Chair: S. Myers |
| 14h30 | Welcome | | R. Aymar |
| 14h40 | Charge to the committee (10min) | | S. Myers |
| 15h00 | The LHC collimation project - implementation of a phased approach (30min) (PPT) | | R. Assmann |
| 15h45 | <i>Coffee</i> | | |
| | | | Chair: R. Assmann |
| 16h00 | Operational baseline assumptions (15min) | | M. Lamont |
| 16h30 | LHC aperture and collimator settings (15min) | | S. Redaelli |
| 17h00 | Machine protection role of collimators (15min) | | R. Schmidt |
| 17h30 | Collimator and beamline heating (15min) | | V. Vlachoudis |
| 18h00 | <i>Adjourn</i> | | |
| 20h00 | <i>Common dinner</i> | | |
| | Thursday July 1, 40-S2-A01 (open session) | | |
| | | | Chair: P. Sievers |
| 8h45 | Logistics (5 min) | | M. Mayer |
| 8h50 | Mechanical engineering and thermo-dynamical calculations (30 min) | | A. Bertarelli |
| 9h30 | Results from heating test (15 min) | | S. Calatroni |
| 10h00 | Manufacturing at CERN (15 min) | | M. Mayer |
| 10h30 | <i>Coffee</i> | | |

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| | | Chair: P. Cruikshank |
| 11h00 | Mechanical robustness (15min) | O. Aberle |
| 11h30 | Status of energy deposition studies IR3 (15min) (PPT) | J.B. Jeanneret |
| 12h00 | Status of energy deposition studies IR7 (15min) | M. Magistris |
| 12h30 | Vacuum system in the cleaning insertions (15min) | C. Rathjen |
| 13h00 | <i>Lunch</i> | |
| | | Chair: J.P. Riinaud |
| 14h00 | Impedance and trapped modes from collimators (15min) | E. Metral |
| 14h30 | The beam loss monitoring system (15min) | B. Holzer |
| 15h00 | Collimator functionality, performance and first view on set-up and optimization (15min) | R. Assmann |
| 15h30 | The collimation of the LHC ion beams (15min) | H. Braun |
| 16h00 | <i>Coffee</i> | |
| | | Chair: R. Bailey |
| 16h30 | Machine tolerances in cleaning insertions (15min) | J. Wenninger |
| 17h00 | Collimator motorization and control (15min) | F. Decorvet |
| 17h30 | Integration into control system (15min) | M. Jonker |
| 18h00 | Radiological issues (15min) | S. Roesler |
| 18h30 | Closure | L. Evans |
| 18h40 | <i>Adjourn</i> | |
| Friday July 2 (closed sessions) | | |
| | | Chair: M. Seidel |
| 9h00 | Committee discussion, additional talks/discussions requested by committee | |
| 12h30 | <i>Lunch</i> | |
| 14h00 | Preliminary report of the committee and discussion | |
| 16h00 | <i>Adjourn</i> | |

Additional Material/Info for Reviewers

The LHC design report (all available chapters) can be accessed at this location:

<http://ab-div.web.cern.ch/ab-div/Publications/LHC-DesignReport.html>

The minutes of the LTC meeting quoted in the design report are at:

http://lhcp.web.cern.ch/lhcp/ab-ltc/ltc_2003-09.html

Links to various files are called "Annex". For convenience I list the direct links:

Ref. [50] O. Aberle. Proposal to the AB LHC Technical Committee (LTC) on June 25, 2003.
http://lhcp.web.cern.ch/lhcp/ab-ltc/LTC_2003-09c.pdf

Ref. [53] V. Vlachoudis, Proposal to the AB LHC Technical Committee (LTC) on June 25, 2003.
http://lhcp.web.cern.ch/lhcp/ab-ltc/LTC_2003-09b.pdf

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