



EDMS: 3199982

HL-LHC Beam Halo Monitoring Review

Mandate and Charges

Date: Wednesday December 18th, 2024

Venue: CERN – 774-R-013

Agenda: <https://indico.cern.ch/event/1483006/timetable/#20241218>

Scope

(Pre-review supporting material: Beam Halo Monitoring Working Group meetings: [here](#))

The main goals of this review are to present the LHC beam halo monitoring functional specifications and to evaluate the performance and limitations of the beam instruments studied (and developed where applicable) to meet these specifications.

This evaluation will include assessing the clarity, completeness, and consistency of the specifications, as well as advising on the monitors' architecture and proposed implementation.

The review will also highlight the main risks for successfully deploying the system in the LHC during Long Shutdown 3 (LS3), considering both budget and schedule factors.

Charge Questions

The Review Panel members are asked to answer the following questions:

1. Are the functional specifications comprehensive and clear? Is there any ambiguity, excessively stringent specification, or other inconsistency in the final document?
2. For each proposed technical solution
 - a. does the monitor meet all functional specifications?
 - b. are budget and schedule clearly explained?
 - c. Is the proposed strategy and are the milestones to address remaining technical issues or unknowns well-defined and aligned with implementation during LS3?
3. Are the pros and cons of the different technical solutions properly addressed?



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4. Are there changes to the functional specifications that could increase the chances of success in terms of budget and schedule?

Composition of the Review Panel

1. Ubaldo Iriso CELLS, Chair
2. Giovanni Rumolo BE-ABP
3. Jorg Wenninger BE-OP
4. Markus Zerlauth ATS-DO

Linkperson: Federico Roncarolo (SY-BI)



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Proposed agenda

8:50 - 9:00	Welcome/Introduction	
9:00 - 9:30	Overview of the beam halo monitoring functional specifications	Stefano Redaelli (20min + 10min discussion)
9:30 - 10:00	Present and future optics configurations in IR4	Riccardo De Maria (20min + 10min discussion)
10:00 - 10:30	Beam halo measurements Run2 and Run3 - Status and prospects	Carlo Emilio Montanari (20min + 10min discussion)
10:30 - 10:50	Coffee Break	
10:50 - 11:20	BSRH: Development of performance in LHC	Jan Pucek (20min + 10min discussion)
11:20 - 11:40	BSRH: Implementation during LS3	Federico Roncarolo (15min + 5min discussion)
11:40 - 12:10	Low Density Wires: Development for beam halo monitoring - status and plans	Gerard Aliana Cervera(20min + 10min discussion)
12:10 - 12:30	Low Density Wires: Implementation during LS3	Ray Veness/Chiara Pasquino (15min + 5min discussion)
12:30 - 14:00	Lunch Break	
14:00 - 14:30	BGC: Development in LHC and implementation study for LS3	Daniele Butti (20min + 10min discussion)
14:30 - 14:50	BGC: Implementation in LHC during LS3	Gerhard Schneider/Chiara Pasquino (15min + 5min discussion)
14:50 - 15:20	BGI: Development in LHC and implementation study for LS3	James Storey (20min + 10min discussion)
15:20 - 15:40	Coffee Break	
15:40 - 16:00	BGI: Implementation during LS3	Gunn Khatri (15min + 5min discussion)
16:00 - 16:30	Summary and Comparison of the proposed beam halo monitoring systems, proposal for HL	Federico Roncarolo (20min + 10min discussion)
16:30 - 17:30	Wrap-up discussion End of Meeting	All



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Proposed invitation list

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Other invitees / people to be informed

- HL-LHC WP Leaders & Deputies
- MODENA, Michele (ATS-DO)