Review of the needs for a hollow e-lens for the HL-LHC

Report of Contributions

Contribution ID: **1**   Type: **not specified**

Overview and introduction including an outline of the existing installation options, optics conditions, infrastructure requirements (cry, power), Tools for halo measurement and timeline (planning need for the technical design etc.)

Thursday, 6 October 2016 09:00 (30 minutes)

Presenter: REDAELLI, Stefano (CERN)

Session Classification: Introduction Session

Contribution ID: **2**   Type: **not specified**

Discussion

Thursday, 6 October 2016 09:30 (15 minutes)

Session Classification: Introduction Session

Contribution ID: **3**   Type: **not specified**

Loss and lifetime observations during nominal operation and their extrapolation to HL-LHC parameters.

Thursday, 6 October 2016 09:45 (30 minutes)

Presenter: SALVACHUA FERRANDO, Belen Maria (CERN)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **4**   Type: **not specified**

Discussion

Thursday, 6 October 2016 10:15 (15 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **5**
Type: **not specified**

Loss and lifetime observations during the ᾽Static᾽ Cycle (stable beam) and their extrapolation to HL-LHC parameters.

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **6**
Type: **not specified**

Q & A

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **7**   Type: **not specified**

What did we learn about HALO population during MDs and regular operation?

Thursday, 6 October 2016 11:30 (20 minutes)

Presenter: VALENTINO, Gianluca (University of Malta (MT))

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **8**   Type: **not specified**

Discussion

Thursday, 6 October 2016 10:50 (10 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **9**   Type: **not specified**

Observations and measurements on the impact of earthquakes and cultural noise on the LHC operation and their extrapolation to HL-LHC parameters.

Thursday, 6 October 2016 12:00 (30 minutes)

Presenter: SCHAUMANN, Michaela (CERN)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **10**   Type: **not specified**

Discussion

Thursday, 6 October 2016 12:30 (15 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **11**   Type: **not specified**

Potential scenarios in the HL-LHC machine that can lead to very fast orbit changes (e.g. missing be a,-beam kicks, damper failure scenarios, Crab cavity failure scenarios etc)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **12** Type: **not specified**

Q & A

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **13**
Type: **not specified**

Operational experience from Tevatron and relevance for HL-LHC

Thursday, 6 October 2016 15:15 (35 minutes)

Presenters: VALISHEV, Alexander (Fermilab); FITTERER, Miriam

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **14**   Type: **not specified**

Discussion

Thursday, 6 October 2016 14:35 (10 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **15**
Type: **not specified**

Operational experience of RHIC electron lenses and their effect on collimation and halo populations

Thursday, 6 October 2016 14:45 (20 minutes)

Presenter: FISCHER, Wolfram (BNL)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **16**   Type: **not specified**

Discussion

Thursday, 6 October 2016 15:05 (10 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC
parameters

Contribution ID: **17** Type: **not specified**

Operational experience from HERA and their extrapolation to the HL-LHC

Thursday, 6 October 2016 14:15 (20 minutes)

Presenter: SEIDEL, Mike (PSI)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **18**   Type: **not specified**

Discussion

Thursday, 6 October 2016 15:50 (15 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC
parameters

Contribution ID: **19**

Type: **not specified**

Expectations (extrapolated from LHC operation) for the beam lifetime and halo population based on scaling from the LHC observations for radiation damping and IBS excitation.

Thursday, 6 October 2016 16:35 (20 minutes)

Presenter: ANTONIOU, Fanouria (CERN)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **20**   Type: **not specified**

Discussion

Thursday, 6 October 2016 16:55 (10 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC
parameters

Contribution ID: **21** Type: **not specified**

RF overview of the Crab Cavity system for HL-LHC with presentation on potential failure modes and summary of the KEK operation experience.

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **22**   Type: **not specified**

Q & A

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **23**   Type: **not specified**

Machine protection requirements for HL-LHC and failure modes

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **26**   Type: **not specified**

Q & A

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **27** Type: **not specified**

RF overview of the Crab Cavity system for HL-LHC with presentation on potential failure modes and summary of the KEK operation experience.

Thursday, 6 October 2016 17:05 (30 minutes)

Presenter: CALAGA, Rama (CERN)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **28**   Type: **not specified**

Discussion

Thursday, 6 October 2016 17:35 (15 minutes)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **29**   Type: **not specified**

Potential failure scenarios in the HL-LHC machine that can lead to very fast orbit changes (e.g. missing beam-beam kicks, damper failure scenarios, Crab cavity failure scenarios etc) and the resulting machine protection requirements for HL-LHC operation (with input from collimation team).

Thursday, 6 October 2016 17:50 (30 minutes)

Presenter: WOLLMANN, Daniel (CERN)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **30**   Type: **not specified**

Discussion

Thursday, 6 October 2016 18:20 (15 minutes)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **31**　　　　　　　　　　　　　　　　　　Type: **not specified**

Measured effects of depleted halo population with hollow e-lens and relevance for HL-LHC

Friday, 7 October 2016 09:00 (20 minutes)

Presenter:　STANCARI, Giulio (Fermi National Accelerator Laboratory)

Session Classification:　Session on HL-LHC system specifics

Contribution ID: **32**   Type: **not specified**

Discussion

Friday, 7 October 2016 09:20 (10 minutes)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **33**   Type: **not specified**

Potential performance reach for the HL-LHC in case of a depleted beam halo

Friday, 7 October 2016 10:15 (30 minutes)

Presenter: ARDUINI, Gianluigi (CERN)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **34**   Type: **not specified**

Discussion

Friday, 7 October 2016 10:00 (15 minutes)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **35**

Type: **not specified**

Alternative methods for halo depletion (damper and tune modulation [and wire]), long range beam-beam and comparison of their performance / reliability to that of a hollow electron lens.

Friday, 7 October 2016 09:30 (30 minutes)

Presenter: BRUCE, Roderik (CERN)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **36**   Type: **not specified**

Discussion

Friday, 7 October 2016 10:45 (15 minutes)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **37** Type: **not specified**

Reserve session for additional presentation requests from Day 1 of the Review

Friday, 7 October 2016 11:30 (1 hour)

Session Classification: Session on HL-LHC system specifics

Contribution ID: **38**   Type: **not specified**

What did we learn about HALO population during LRBB studies and MDs?

Thursday, 6 October 2016 10:30 (20 minutes)

Presenter: PAPAPHILIPPOU, Yannis (CERN)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **39**   Type: **not specified**

Discussion

Thursday, 6 October 2016 11:50 (10 minutes)

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **40**   Type: **not specified**

Hollow e-lens performance simulations for HL-LHC

Presenter: FITTERER, Miriam

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **41**   Type: **not specified**

Discussion

Session Classification: Session on operational experience and extrapolation to HL-LHC parameters

Contribution ID: **42**   Type: **not specified**

Closeout

Friday, 7 October 2016 16:30 (1 hour)

Presenter: SCHMIDT, Rudiger (CERN)

Contribution ID: **43**   Type: **not specified**

Introduction

Thursday, 6 October 2016 08:45 (15 minutes)

Presenter: BRUNING, Oliver (CERN)

Session Classification: Welcome