

1st LHCC Upgrade Session

Introduction

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- First stages of LHC accelerator upgrades already part of the programme
 - Linac4, inner triplet replacement
- Next steps also being planned for
 - SPL, PS2

..... but not yet part of the approved programme
- Considerable detector R&D effort is currently ongoing
 - RD39, RD42, RD50, (RD51), SLHC-PP project, R&D within CERN PH-dept
 - Substantial efforts within ATLAS and CMS towards upgrades for SLHC
 - ALICE and LHCb also planning for long term future
- General consensus that LHCC is the natural body to conduct the peer review of all such detector upgrade activities
 - LHCC should become significantly more active in this area
 - New appointments to LHCC being made to strengthen expertise in relevant areas
 - E.g., silicon detectors, large scale upgrades of major running experiments
 - Establish LHCC referee team for upgrades
 - As we have already for the four large experiments and the LCG
 - Every LHCC week pick two or three topics for presentation/discussion
 - Conduct twice yearly mini-reviews involving a larger fraction of the committee

Aims of this first meeting

- Bring together all interested constituencies to
 - plan the way ahead
 - establish contacts for future discussions/reviews
- Agree on "optimistic" and "pessimistic" scenarios to define the range of likely:
 - timescales for machine upgrades
 - evolution of peak and integrated luminosity
 - likely timing and duration of shutdowns needed by machine and experiments to install upgrades
- Define timescales for detector upgrades:
 - R&D, design, construction
 - Lol, MoU, TDR, approval, funding, etc
 - Everyone understands how difficult it is to predict the future
 - but having a common vision (albeit with large error bars) seems essential

Notes

- Whilst the focus of this first meeting will be on the challenges that high luminosity and radiation levels place on the general purpose detectors, future meetings will address also the special challenges that face the ALICE and LHCb experiments
- We have deliberately tried to keep the talks fairly brief and scheduled plenty of time for discussion