Projection scenarios

A. Gilbert for CMS

ECFA scenarios

- https://cds.cern.ch/record/2266165/files/FTR-16-002-pas.pdf
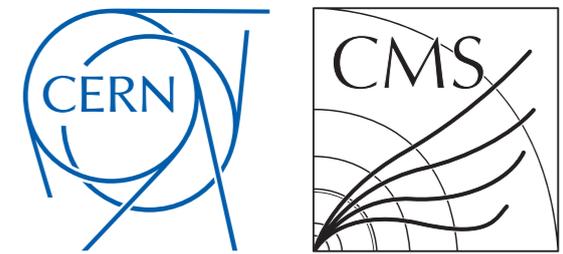
  - **ECFA S1 :** All systematic uncertainties are kept constant with integrated luminosity. The performance of the CMS detector is assumed to be unchanged with respect to the reference analysis;

  - **ECFA S1+ :** All systematic uncertainties are kept constant with integrated luminosity. The effects of higher pileup conditions and detector upgrades on the future performance of CMS are taken into account [4];

  - **ECFA S2 :** Theoretical uncertainties are scaled down by a factor 1/2, while experimental systematic uncertainties are scaled down by the square root of the integrated luminosity until they reach a defined lower limit based on estimates of the achievable accuracy with the upgraded detector. The effects of higher pileup conditions and detector upgrades on the future performance of CMS are not taken into account;

  - **ECFA S2+ :** Theoretical uncertainties scaled down by a factor 1/2, while experimental systematic uncertainties are scaled down by the square root of the integrated luminosity until they reach a defined lower limit based on estimates of the achievable accuracy with the upgraded detector. The effects of higher pileup conditions and detector upgrades on the future performance of CMS are taken into account [4].