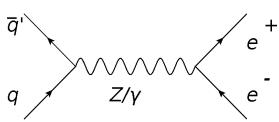


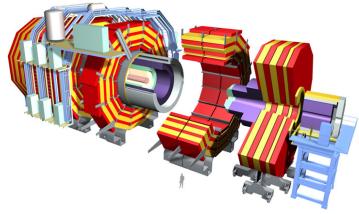
Data

MC



Hard scatter

- Initial parton interaction producing physics



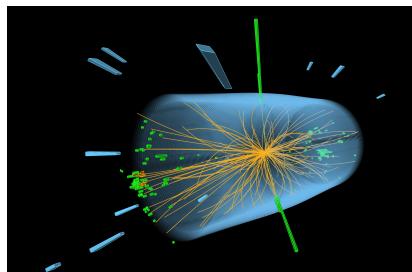
Detector

- Final state particles travel through/interact with CMS leaving hits and energy deposits



Detector response

- Hits and deposits are readout and fast reconstruction is performed by the trigger and accept/reject decision is made



RECO

- Events with reconstructed objects (tracks, vertices, jets, electrons, muons, etc.) and reconstructed hits/clusters
- Output of tier0 reconstruction for data

GEN

- Matrix element is calculated for desired physics process
- Output of matrix element is interfaced as input to parton shower for hadronization simulation

SIM

- Simulated final state particles (output of parton shower) are interfaced with GEANT4 detector simulation to produce simulated hits and energy deposits

DIGI

- Simulated hits are converted into simulated detector response (equivalent to RAW tier in data)