

# Introduction

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# Top quark summaries

- Top quark twiki page contains summaries of top quark topics
  - From our charge: "Please provide a compact summary of the state of knowledge about the Top Quark."
  - Reference material
  - Baseline, starting point for all studies
- Summary not presented today:
  - Detecting and Distinguishing top-partners (decaying into top quark + invisible)
- Summary not yet written:
  - Top and Detectors

# Parameters/Resources

- Collider parameters and simulation resources are now getting settled
  - high-lumi LHC
    - ▶ 14 TeV, 300 fb<sup>-1</sup>
    - ▶ 14 TeV, 3000 fb<sup>-1</sup>
  - higher energy LHC
    - ▶ 33 TeV, 100 TeV
  - e+e- colliders at various energies
    - ▶ 250 GeV, 1 TeV, 3 TeV, 6 TeV
  - muon collider
    - ▶ 6 TeV
- Simulation samples require coordination
  - Fast simulation
  - ATLAS/CMS European Study style simulation samples?
  - Shared backgrounds with other groups
  - Top signal is background for others

# Other EF groups

- Previous workshops:
- Higgs workshop
- <http://physics.princeton.edu/indico/conferenceTimeTable.py?confId=127>
- BSM workshop
- <https://indico.cern.ch/conferenceTimeTable.py?confId=215504>
- Electroweak workshop
- <https://indico.cern.ch/conferenceDisplay.py?confId=221687>
  
- For parameters, simulation, settings, see workshop pages above
- Sharing samples with other groups
  - requires agreement on generation/simulation parameters
  - BSM group wants to use Delphes for fast sim
  - Other groups also use PGS

# Overlap with other groups

- Many top quark topics are also interesting to other groups
  - new physics searches
  - Higgs coupling
  - top as background
- Collaborate with other groups
  - Avoid duplication of work
  - Treat top quarks consistently for all Snowmass studies
- Separation of group responsibilities:
  - Top group is responsible for top quark selection and identification
    - ▶ Boosted tops, algorithms, selection cuts, etc
    - ▶ Anything that is top-centric will be covered in top group
  - Other groups are responsible for specific models
    - ▶ specific BSM models have many final states, including top
    - ▶ top-Higgs coupling is one of the Higgs couplings to measure

# Future meetings

- Expect to have regular Vidyo/Phone meetings
  - possibly bi-weekly
- April EF all-hands meeting will have two days for top group meetings
  - Please come to this meeting if you can
  - April 3-6, Brookhaven
  - <http://www.bnl.gov/snowmass2013/>
  - Registration now open

# Goals for today

- Presentations of summaries of top quark subjects
- Gather list of specific topics that people are working on
  - From summaries
  - From this meeting
- Twiki page will be updated after the meeting with list of topics and contributors