



ATLAS



# TopD3PDBoosted Package

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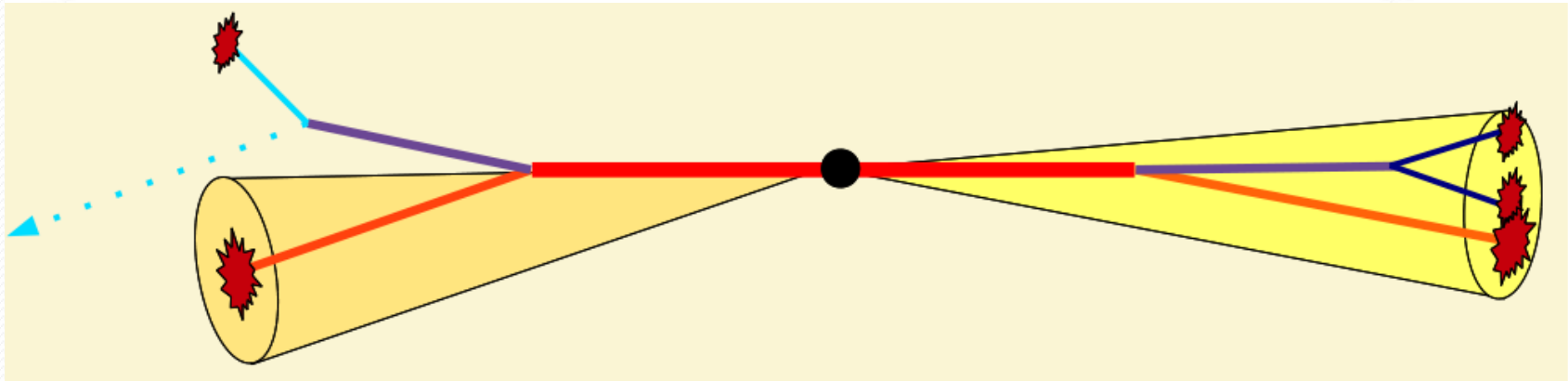
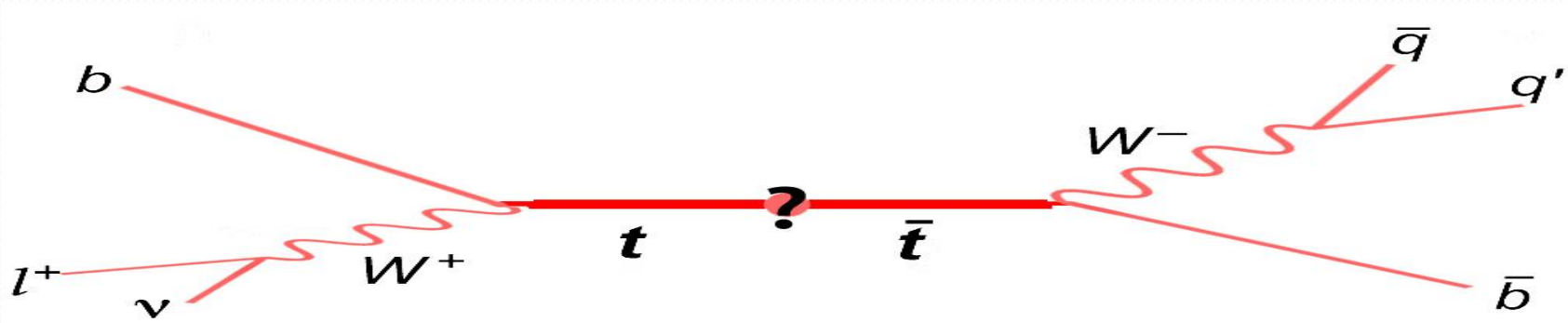
# Outline

- Motivation
- Analysis Approach
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# Motivation

- To have a package easy to update for Boosted ttbar analysis.
- Provide to other teams a package ready to use, containing the latest topcommonobject prescriptions for boosted regime

# Analysis Approach



- Lepton (Electron, Muon )
- MissingEt (Neutrino)
- Akt4Jet

- AktioJet (FatJet)

# Tool

- Official TopRootCoreRelease (TRCR).
- It contains the latest TopCommonObject prescriptions.
- TRCR is ready to perform the selection of the standard l+jets top events candidate, in addition it provides the functionality to apply the required corrections to events candidate. But not for Boosted Regime

# Challenges

- Fatjet Object undefined
- Lepton Isolation
- Electron and Muon Objects not adapted for Boosted analysis

# Solution



# Demarche

To use TRCR in Boosted Top regime, we have implemented and integrated the Boosted Objects definitions, selection and reconstruction into TRCR framework:

- Event Selection:
  - Dedicated lepton selection
  - Dedicated Lepton Isolation “MiniIsolation”
  - Dedicated jet and Fat jet selection
  - Dedicated cutflow



# Demarche(2)

- Event corrections:
  - Apply the objet corrections, such as scaling, smearing and SFs
- Systematics:
  - the machinery to apply the systematic to events candidate
- Neutrino & Top pair Reconstruction.
- Integrate new Objects in the output.

# Results

- TopD3PDBoosted Package is OFICCIALLY added to TopRootCoreRelease
- And used not only by Top group but also by SUSY and Higgs Groups
- SVN:  
<https://svnweb.cern.ch/trac/atlasoff/browser/PhysicsAnalysis/TopPhys/TopD3PDBoosted>
- Twiki Page:  
<https://twiki.cern.ch/twiki/bin/viewauth/AtlasProtected/TopD3PDBoosted>



# Thank You