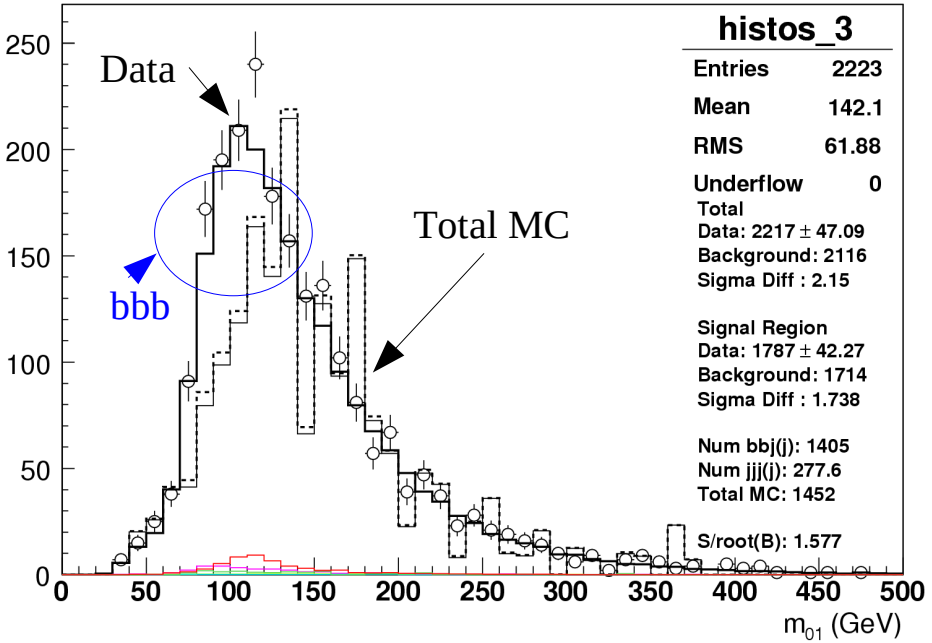
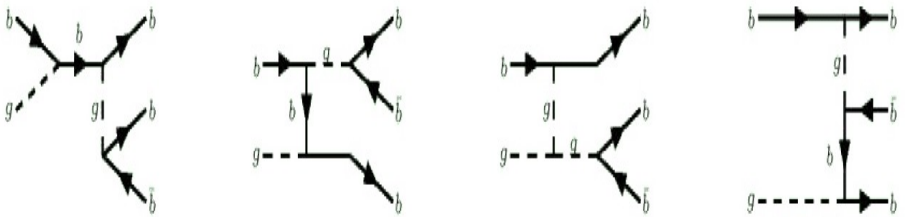
b-ID Status - p14

- NN tagger certified !
  - A major achievement – *the foundation for all future b-tagging at D0*
  - Congratulations to Tim Scanlon and Miruna Anastasoaie
  - Thanks to EB33 for a careful review
- NN tagger tested in physics analyses
  - bbh(->bb) SUSY Higgs analysis
    - Some confusion at first - observed more 3b events in data than expected
    - Turns out to be real bbb background, not fakes
    - Data / MC now in agreement
    - Limits have improved (although not as much as originally hoped, due to bbb background)
  - Single-top
    - Data / MC agreement on-par with other taggers?
    - Better expected limits?

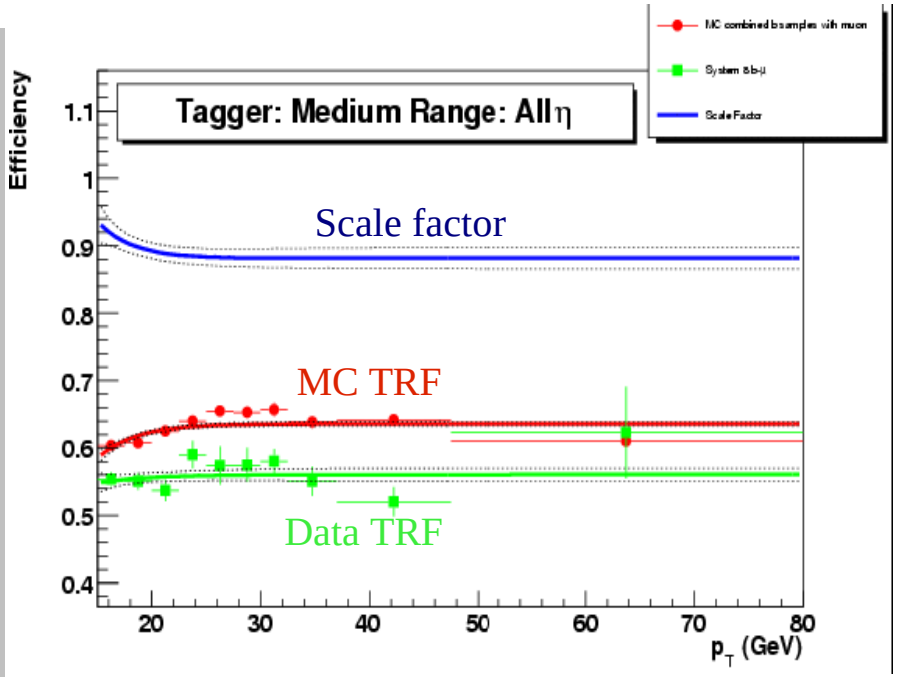


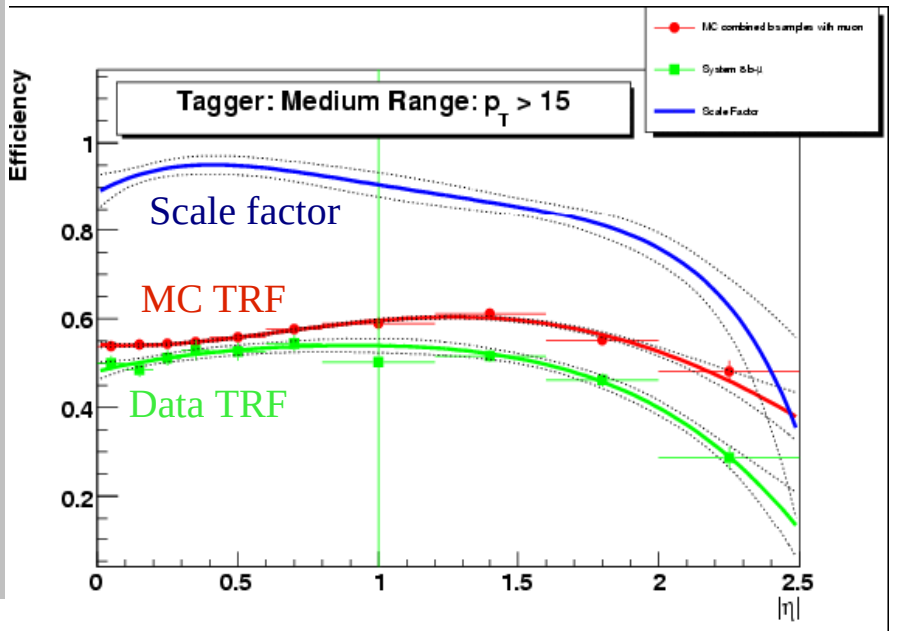
NLO diagrams for pp->bbb production:



b-ID Status - p17

- NN tagger taken over by Miruna Anastasoaie and Stephen Robinson
- Version 0 - almost ready
  - Re-trained NN
  - Has latest JES (07-01-02)
  - Uses re-fixed data
  - TRFs, scale factors - in btags_cert !
  - *Working on fake rates*
  - Partial data set (~300/pb)
  - Un-fixed p17.09 MC – hadronic calibration bug
  - Has !isEM cut
- Version 1 – for preliminary summer '06 results
  - Full data set, fixed MC, no !isEM cut
  - Complete D0Note
- Version 2 – for final certification / publications
  - Better parameterizations (PV_z)
  - More studies of systematics





b-ID Status - CAFe

- Basic functionality completed (most of it long ago)
  - CafeReadEvent / BTagProcessor for running b-tagging
  - tmb_tree classes for accessing b-tagging info
  - Advanced processors: b-jet selector, b-jet permuter
- But *many* bugs found in ROOT
  - Most could be worked around
  - Many fixed
- TRef problem has been fixed
  - Need to use ROOT v5.10 (or above) or patched v4.02b for running b-tagging and analyzing the resulting b-tagged CAF files
  - Alan is working on a p18 build using the patched ROOT
  - Backup / temporary plan:
    - use custom CAFe build to make b-tagged CAF files
    - analyzers use ROOT v5.10

Chad Johnson, Andy, Gordon, Amnon, Aran, Herb, Axel Naumann, Philippe Canal, Alan Jonckheere, ...

Figure 1: Axel, fixing TRef at CERN.