UW Classification trees: first comparison with Atwood/Usher trees

- Issue: how does the boosted tree scheme compare with Insightful Miner's multiple tree?
  - Previous comparison was with single trees only.

- Reminder:
  - This code is all in GlastRelease, accessible to anyone

The new Atwood/Usher variables

- Fantastic job by Tracy to make these available:

- The names are:
  - CTBbestEneProb
    CTBprofileProb
    CTBlastLayerPr
    CTBtrackerProb
    CTBparamProb
    CTBBestEnergy
    CTBdeltaEoE
    CTBVTX
    CTBCORE
    CTBGAM

- A little niggle:
  - Can someone tell me the rule on how to capitalize these guys?
  - When "energy" is "ene"?
  - When "prob" is "pr"?

CTBbestEneProb

- Tracy recommends 0.1 as a cut on this.
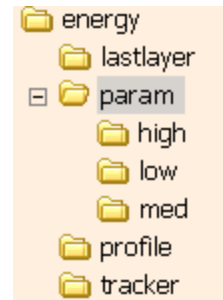 For the 10M GR v7r3p1 run, here is the distribution, cut, and corresponding acceptance:
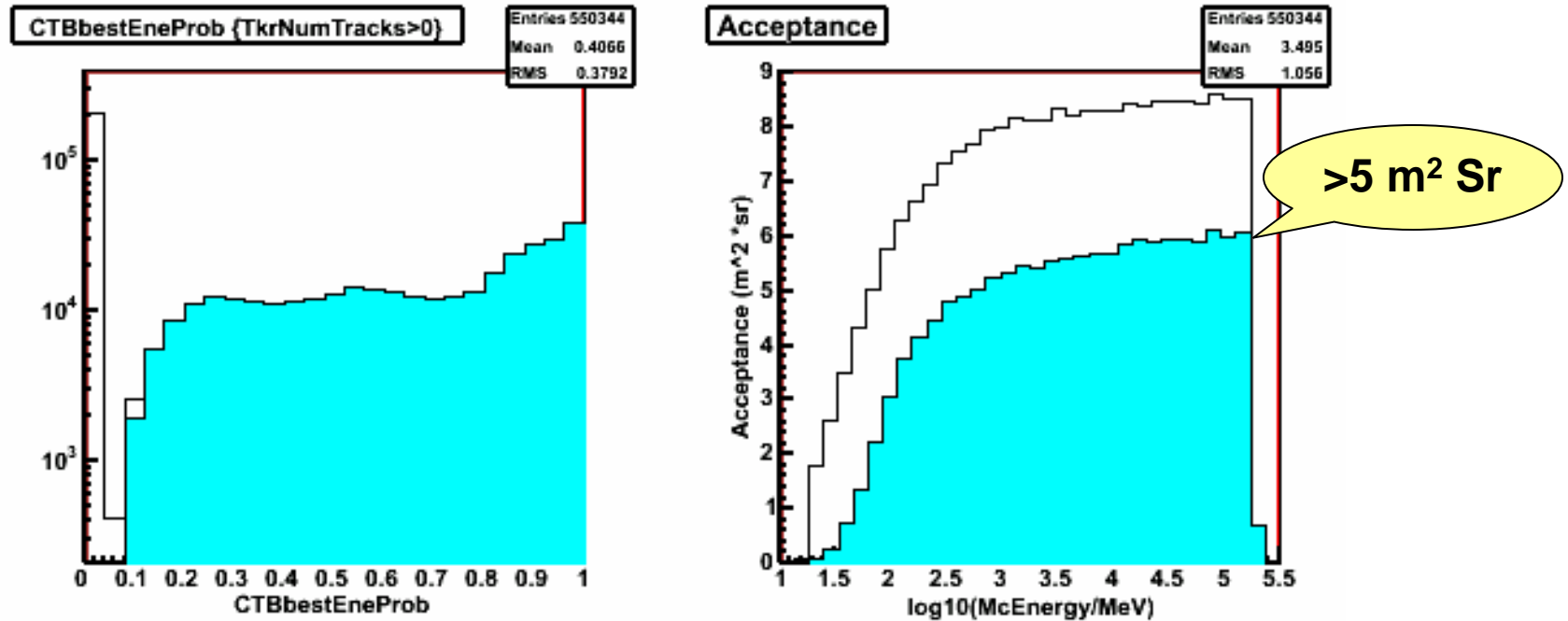
The corresponding ΔE/E distributions for the standard 8 energy bins
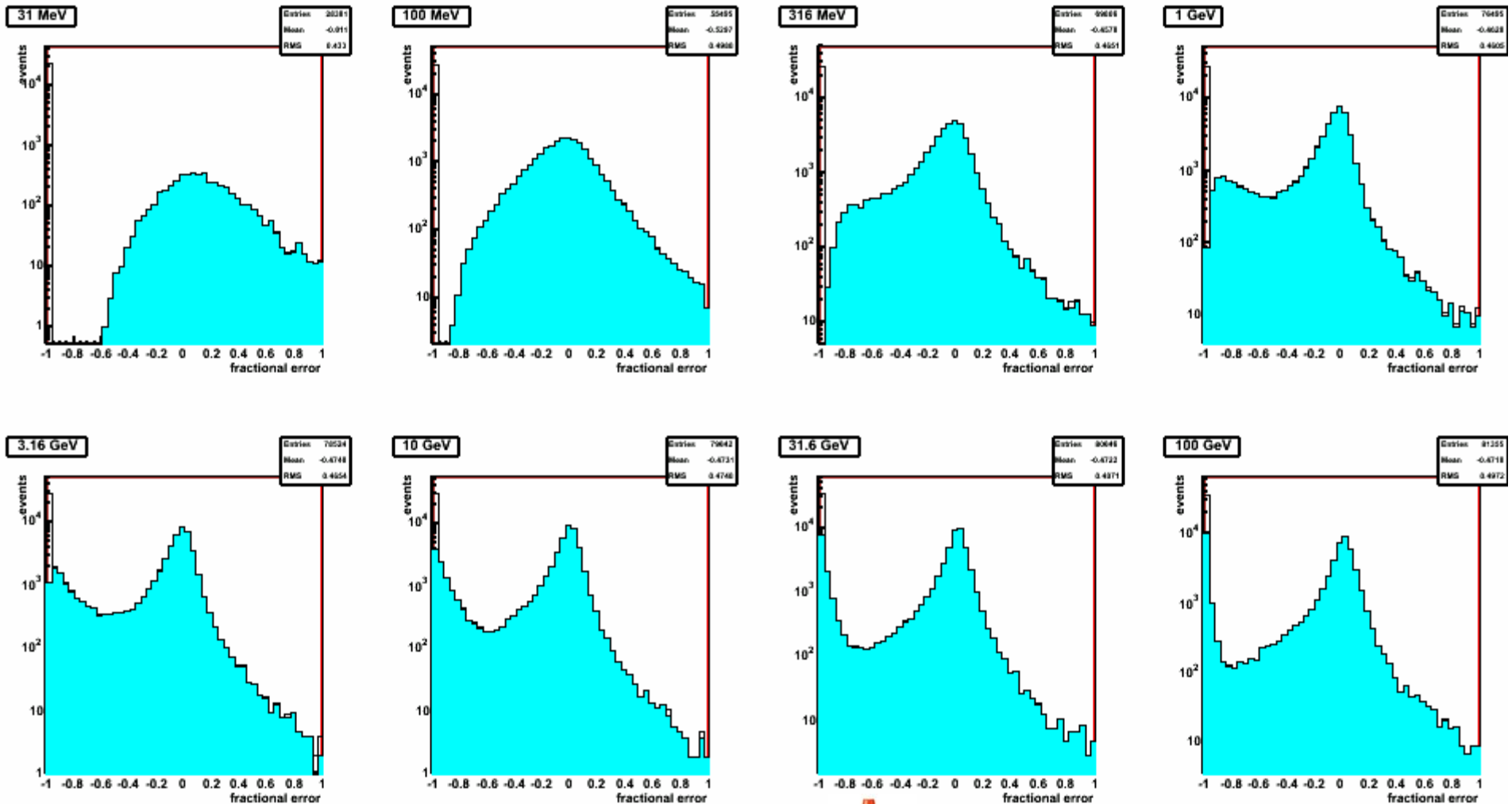
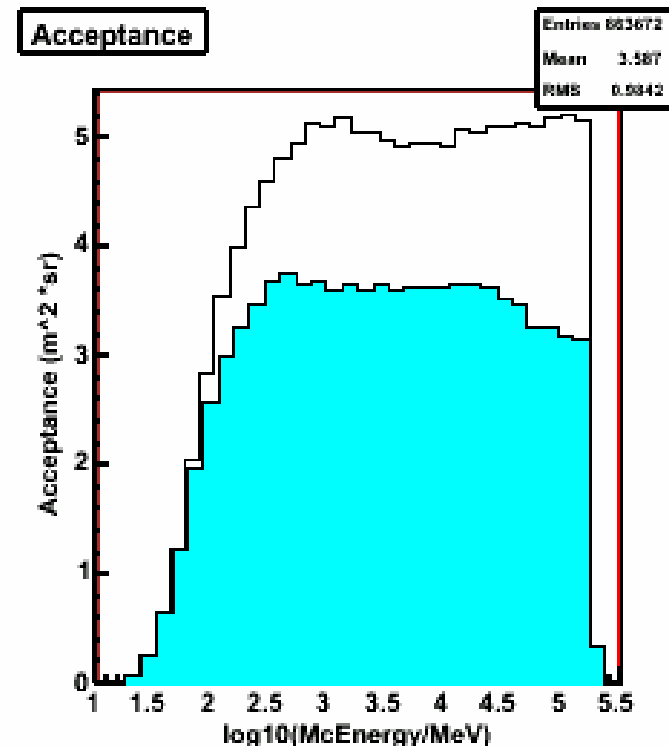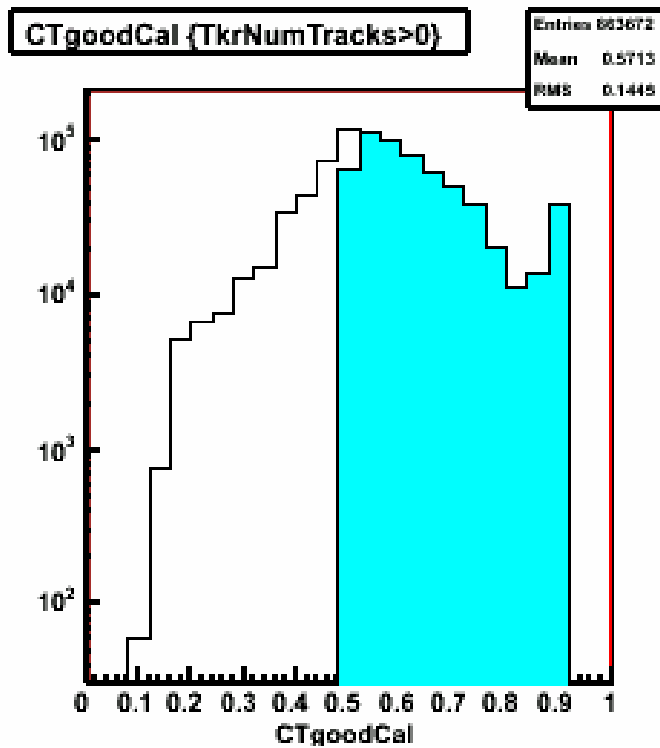**Note: logarithmic scales!**

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The UW version

- ## UW variable: *CTgoodCal*.
  - Trained on even events in

    allGamma-GR-v7r2-merit-TKR-prune.root

  - 7 different trees, all boosted 10 times:
    - param: all energies, or separately low, med, high
    - profile
    - tracker
    - lastlayer
  - Best one seems to be the combination of low, med, high of param
    - Results are shown for performance on the 10 M run
      allGamma-v7r3p1-10M-merit.root
      allGamma-v7r3p1-10M-merit_1.root
      allGamma-v7r3p1-10M-merit_2.root

CTgoodCal results:
cut at 0.5

The corresponding ΔE/E distributions for the standard 8 energy bins
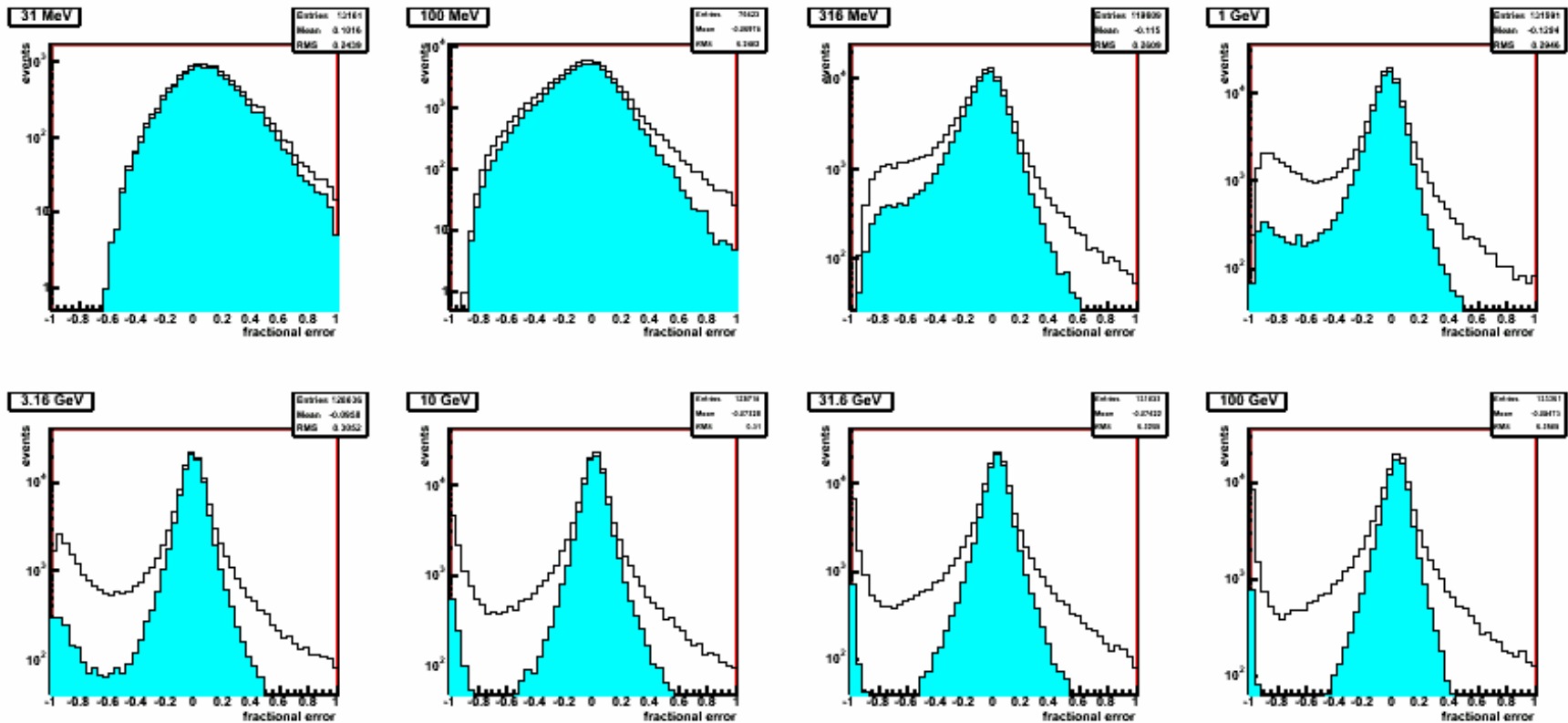
Note: logarithmic scales!

Status

- Boosted trees seem to be at least equivalent to IM multiple trees

- Training can be done by anyone

- Next week: compare the following:
  - CTBVTX with CTvertex
  - CTBCORE with CTgoodPsf: how do our standard σ and γ compare? (See Jim's fits)

- Following week
  - CTBGAM vs. CTgamma