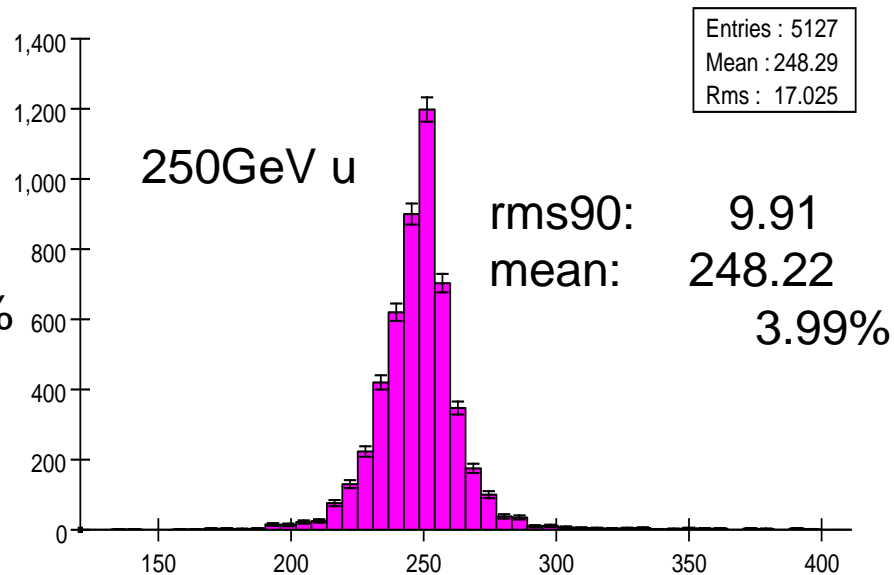
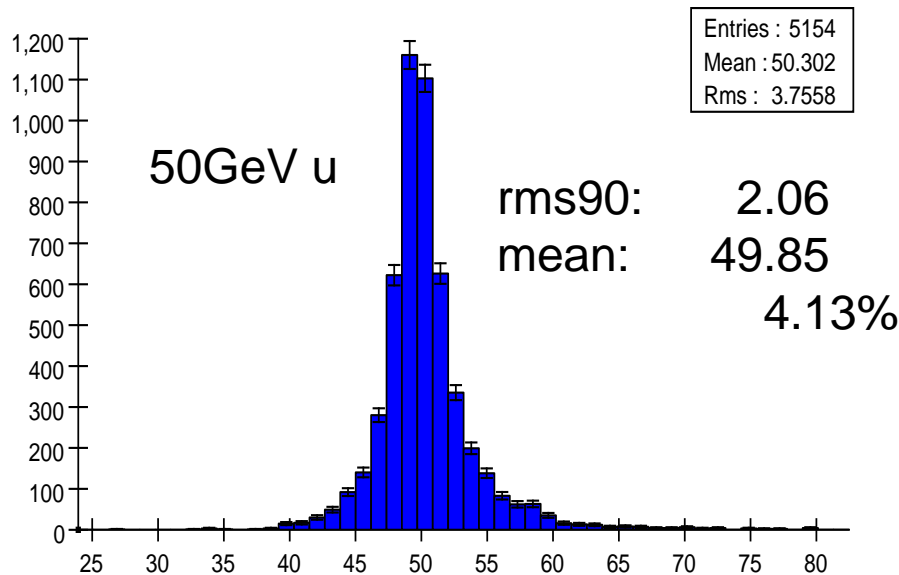

slicPandora Performance update

Norman Graf
SiD PFA Meeting
March 31, 2011

single u quark events sidloi3 slicPandora

PandoraPFA RMS90.Result{rms=2.0607772141109515 mean=49.84804765387926}

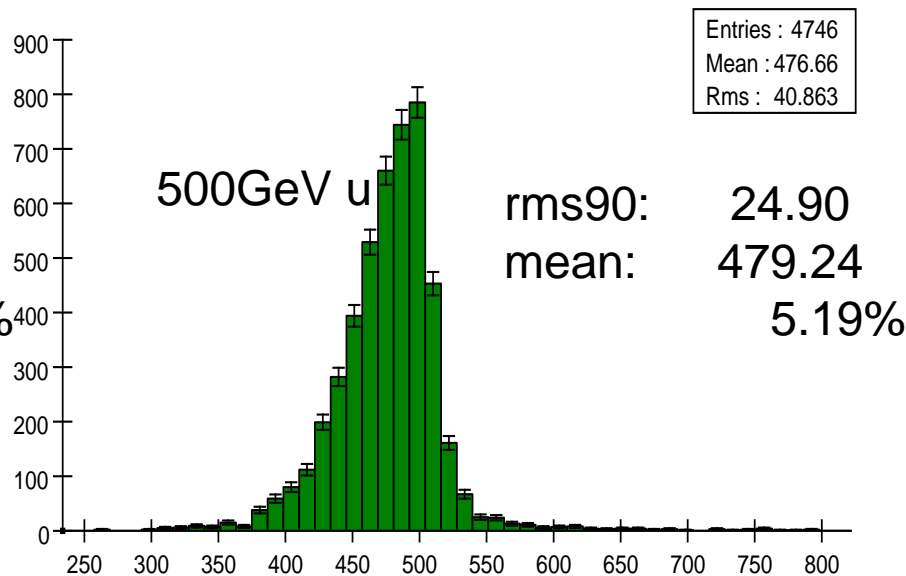
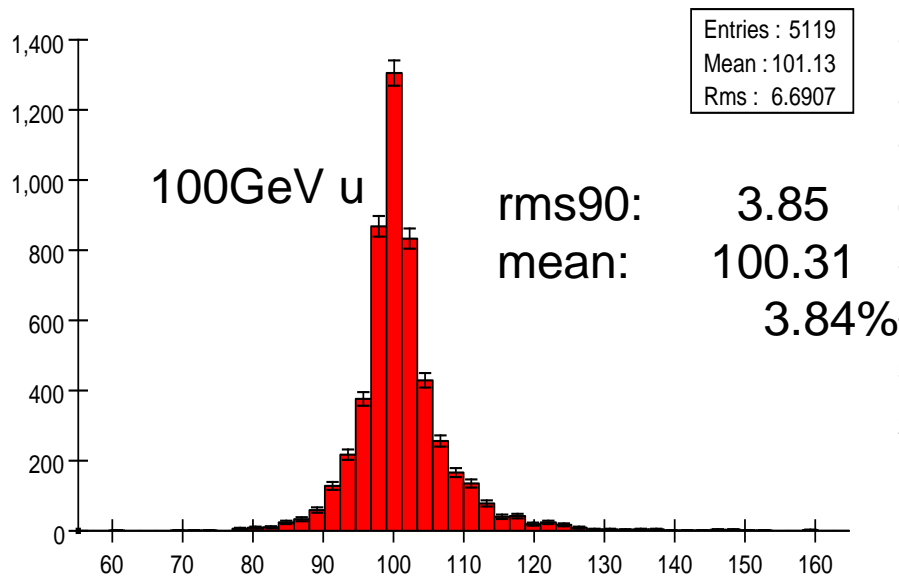
PandoraPFA RMS90.Result{rms=9.912391306373149 mean=248.22219379774742}



Central

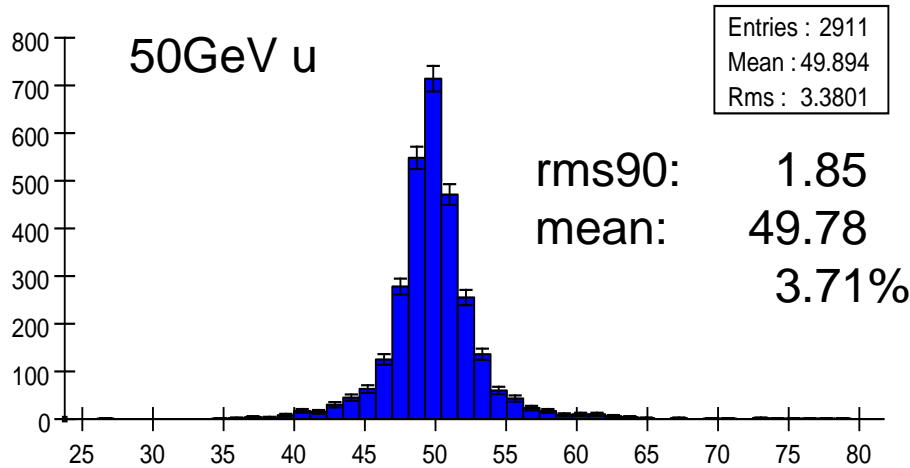
PandoraPFA RMS90.Result{rms=3.849116759972938 mean=100.31203339518126}

PandoraPFA RMS90.Result{rms=24.898620979657203 mean=479.24179807634306}

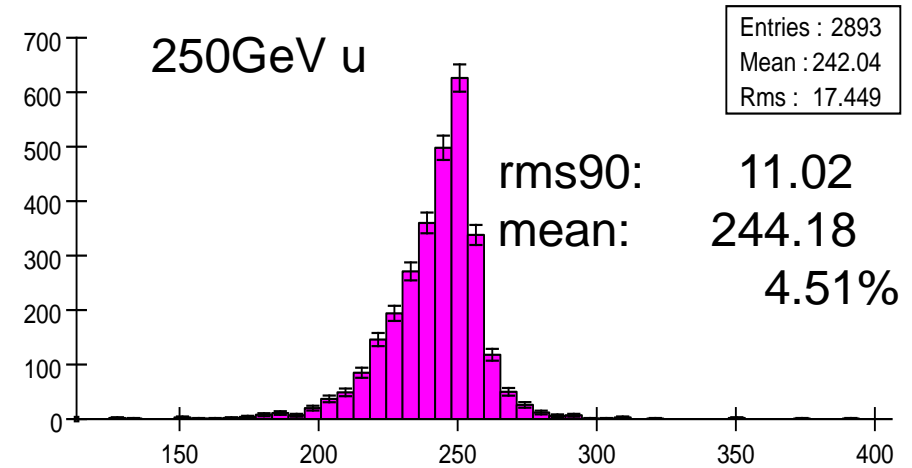


single u quark events sidloi3 slicPandora

PandoraPFA RMS90.Result{rms=1.85402149137358 mean=49.78521811442862}

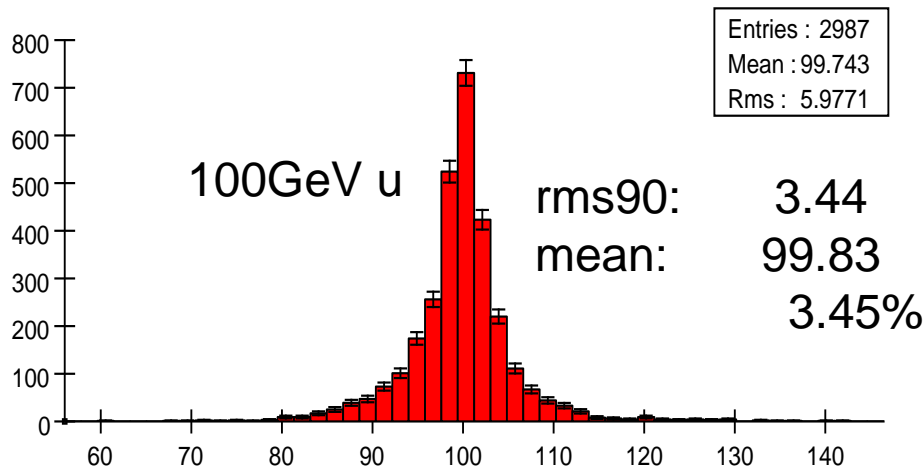


PandoraPFA RMS90.Result{rms=11.015915412801725 mean=244.1842908101577}

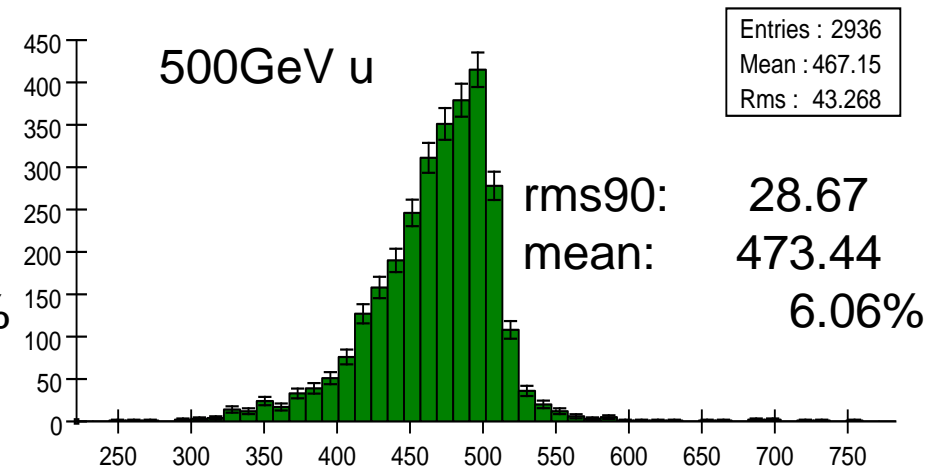


Forward

PandoraPFA RMS90.Result{rms=3.4355208147766265 mean=99.82955546634027}



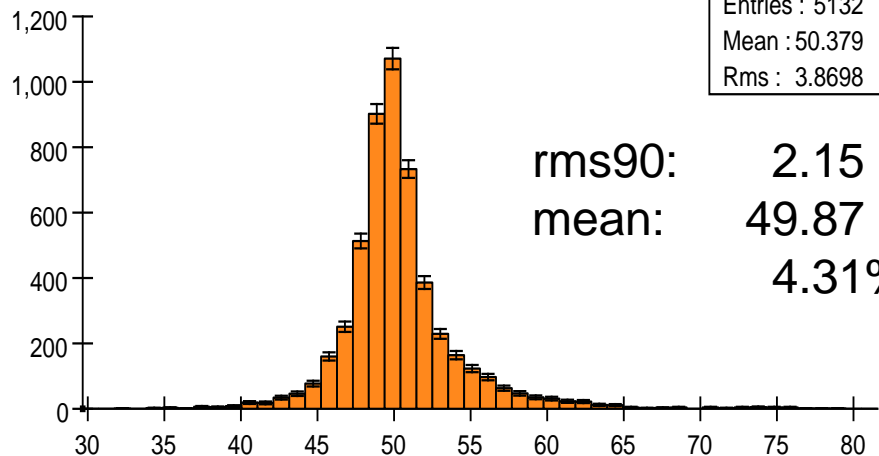
PandoraPFA RMS90.Result{rms=28.672683142369657 mean=473.4368044214745}



single d quark events sidloi3 slicPandora

PandoraPFA RMS90.Result{rms=2.151447985853946 mean=49.866927604814286}

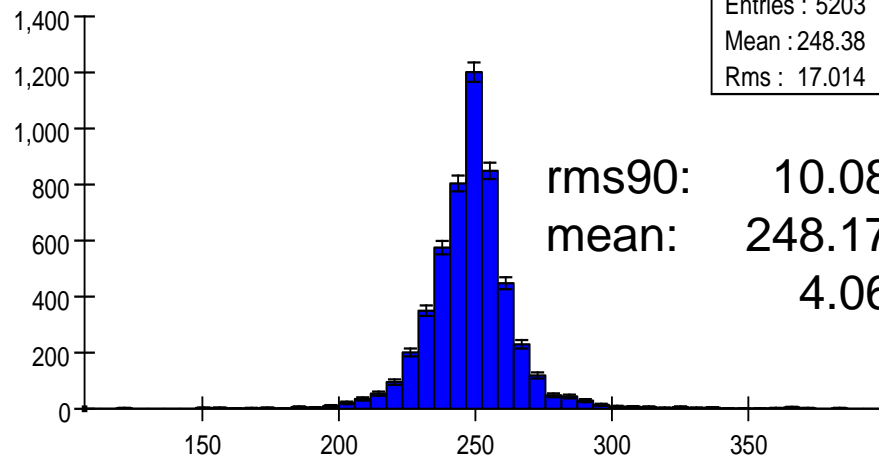
50GeV d



rms90: 2.15
mean: 49.87
4.31%

PandoraPFA RMS90.Result{rms=10.07687648828311 mean=248.17048521122405}

250GeV d

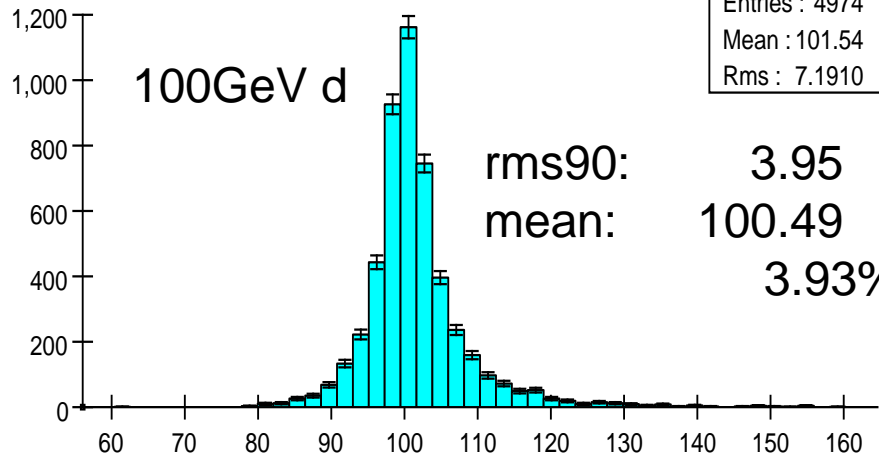


rms90: 10.08
mean: 248.17
4.06%

Central

PandoraPFA RMS90.Result{rms=3.9479054962880666 mean=100.490880567406...}

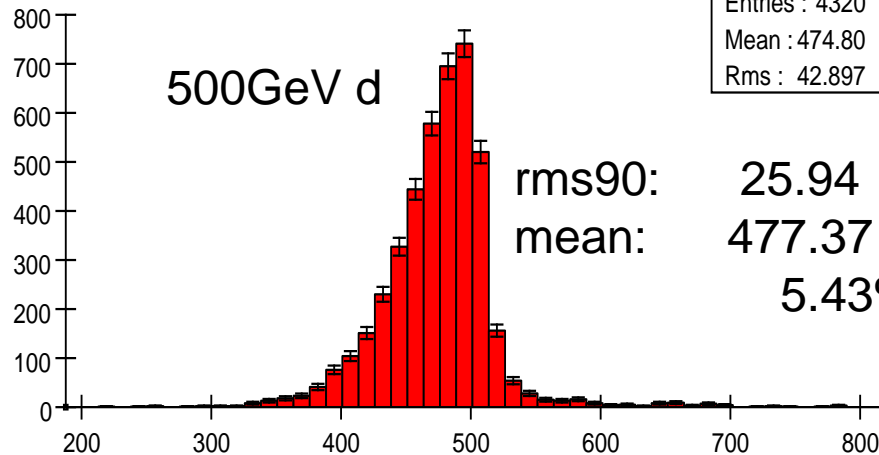
100GeV d



rms90: 3.95
mean: 100.49
3.93%

PandoraPFA RMS90.Result{rms=25.94071721894622 mean=477.3681359265736}

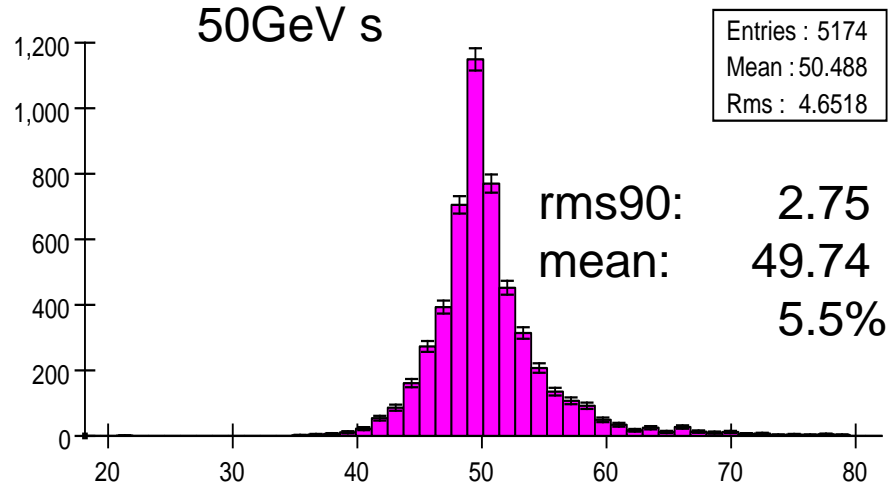
500GeV d



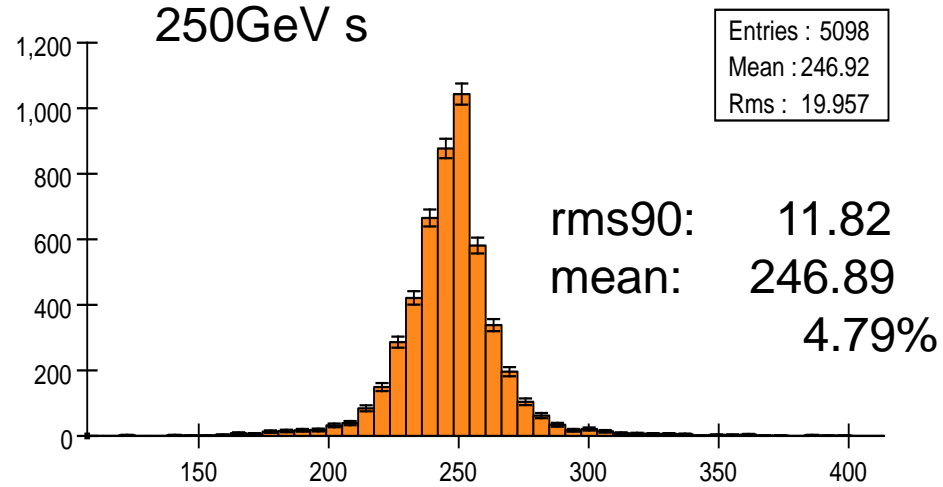
rms90: 25.94
mean: 477.37
5.43%

single s quark events sidloi3 slicPandora

PandoraPFA RMS90.Result{rms=2.7479161923702082 mean=49.7437485922279...

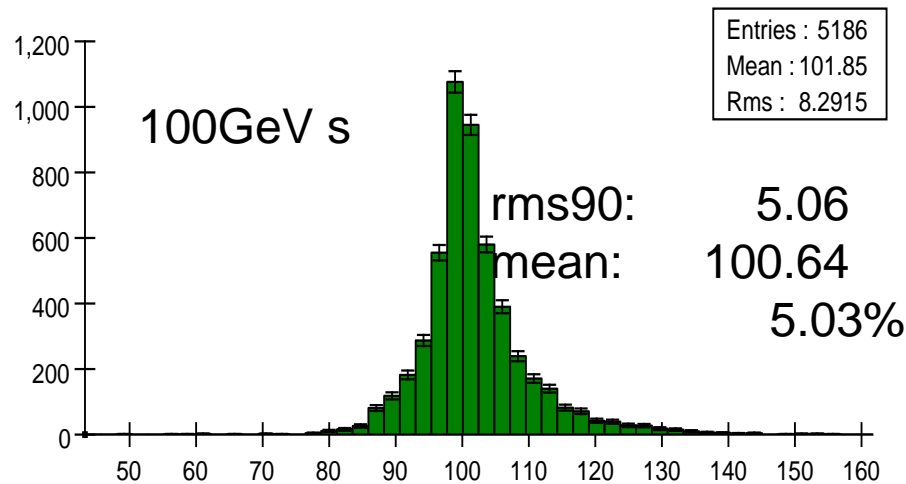


PandoraPFA RMS90.Result{rms=11.822900797352629 mean=246.896566717206...

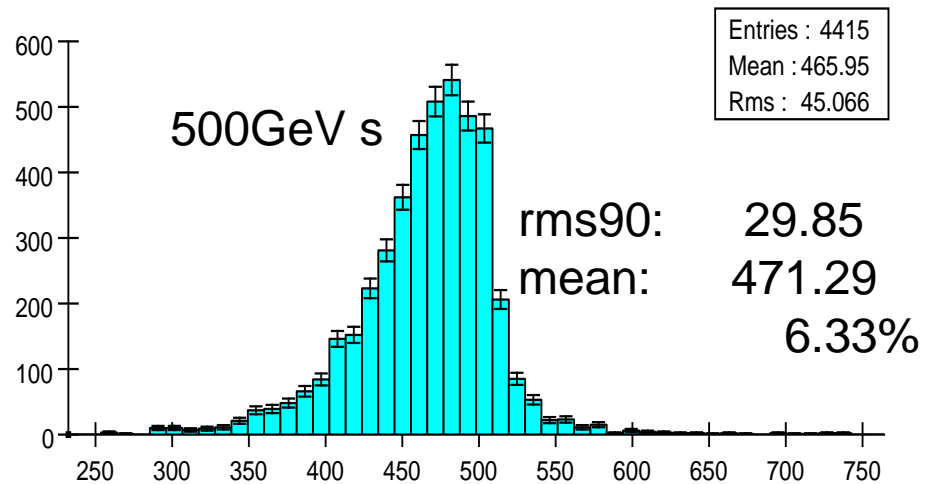


Central

PandoraPFA RMS90.Result{rms=5.060907984912777 mean=100.64482507661891}



PandoraPFA RMS90.Result{rms=29.8545664369937 mean=471.2925003307997}



Resolution as f^n of quark Flavor

- As expected, resolution degrades for d and s quarks compared to u.
- single c and b quarks currently being generated
 - Will be used for dedicated flavor-tagging studies
 - May attempt energy corrections based on flavor ID
- See Marcel's talk for uds dijet performance.
- Will continue flavor studies with $c\bar{c}$ and $b\bar{b}$ events.
- Will extend to W, Z and higgs dijet analyses.

pre-DBD Events @ 1 TeV

- Events processed through sidloi3 detector model and reconstruction.
- Collections of ReconstructedParticles are available for analysis.
- 80000 events available on SLAC disks:

/nfs/slac/g/lcd/ilc_data3/DBD/benchmarking/sidloi3/reco/

w33001	n1 n1 H	nu nu h
w33002	n1 n1 H	nu nu h
w33005	t T H	t tbar h
w33006	t T H	t tbar h
w33129	u D e1 N1	W+W- -> jj + e nu
w33130	u D e1 N1	W+W- -> jj + e nu
w33133	u D d U	W+W- -> jj + jj
w33134	u D d U	W+W- -> jj + jj

Moving ahead

- Focus will return to the CLIC CDR preparations
- Number of areas for improvement in clic_sid_cdr reconstruction using slicPandora
- Will return to SiD@ILC later in the year
 - Hope that DBD analyses will be provided with which we can undertake some amount of detector optimization.