

Cross Cleaning: MET resolution

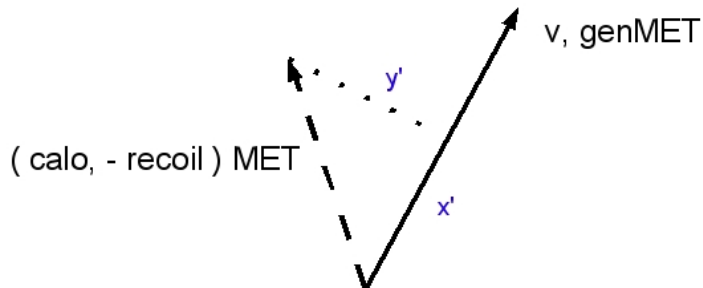
Friederike Nowak

Institut für Experimentalphysik, Universität Hamburg

30. June 2010



Reco MET Projection on True MET



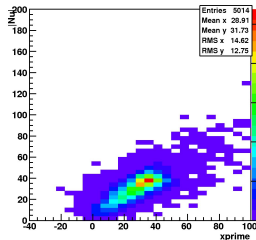
x' : parallel projection of reco MET to true MET

y' : transverse part of reco MET to true MET

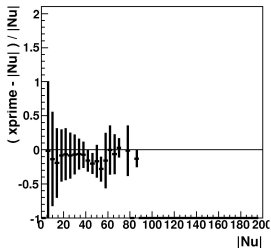
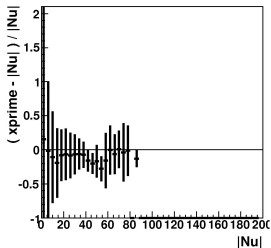
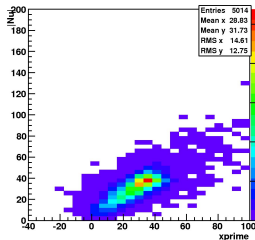
$(W^- \rightarrow e\nu) + \text{Jets}$

xprime (caloMET) fit

Reco, emf cut on jets



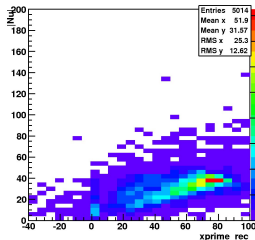
CC, integrated emf cut on jets



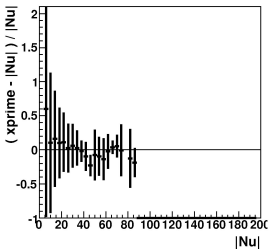
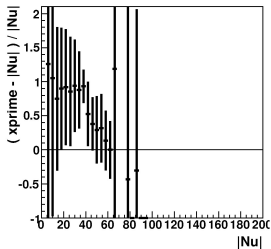
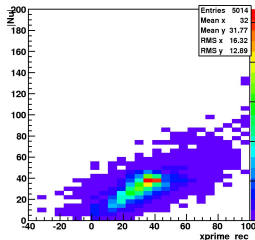
$(W^- \rightarrow e\nu) + \text{Jets}$

xprime (recoilMET) fit

Reco, emf cut on jets



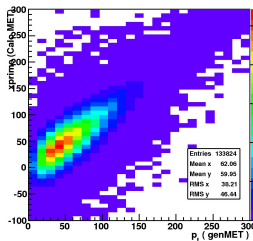
CC, integrated emf cut on jets



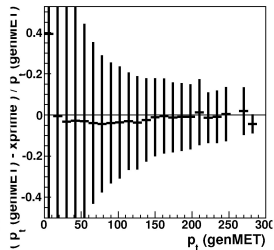
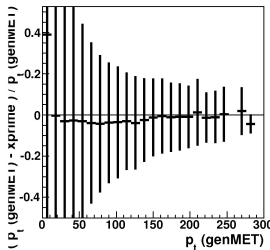
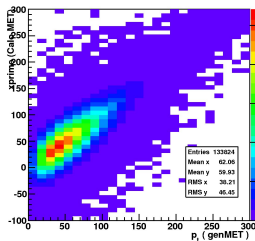
Semileptonic $t\bar{t}$

xprime (caloMET) fit

Reco, emf cut on jets



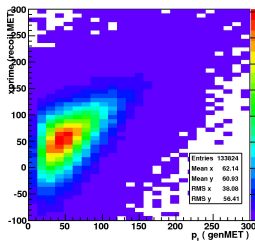
CC, integrated emf cut on jets



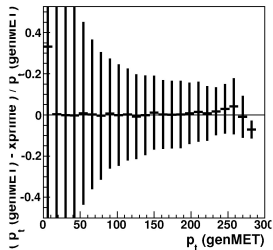
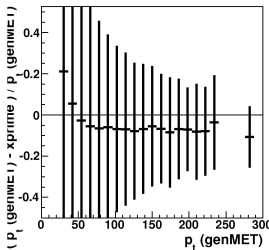
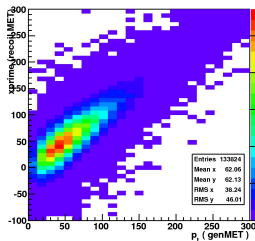
Semileptonic $t\bar{t}$

xprime (recoilMET) fit

Reco, emf cut on jets

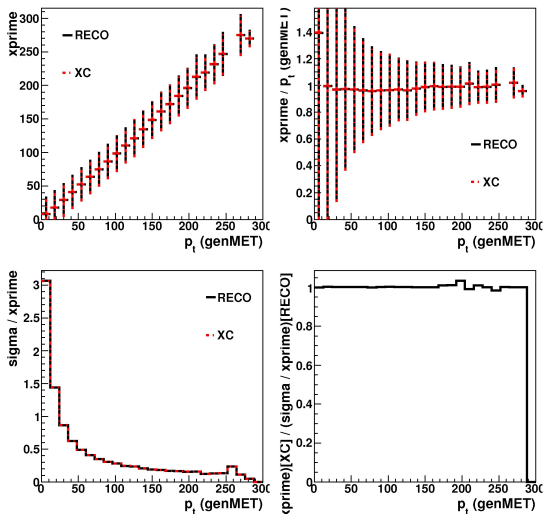


CC, integrated emf cut on jets



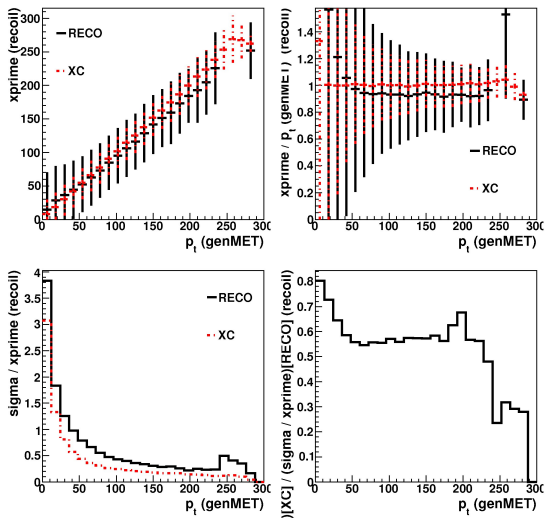
Semileptonic $t\bar{t}$

xprime (caloMET) fit, ii



Semileptonic $t\bar{t}$

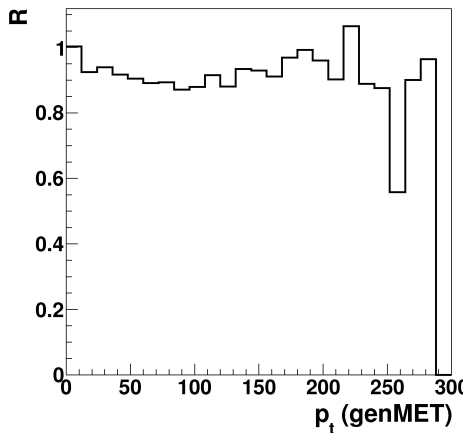
xprime (recoilMET) fit, ii



Semileptonic $t\bar{t}$

Ratio of Resolutions

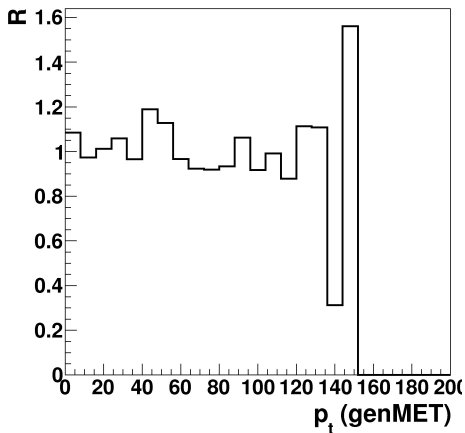
$$R = (\sigma / x_{\text{prime}}) [\text{XC, recoil}] / (\sigma / x_{\text{prime}}) [\text{RECO, calo}]$$



$(W^- \rightarrow e\nu) + \text{Jets}$

Ratio of Resolutions

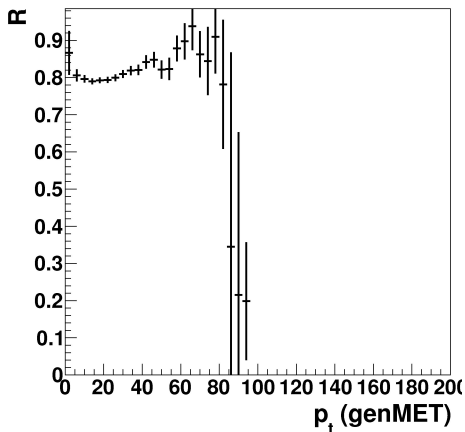
$$R = (\sigma / x_{\text{prime}}) [\text{XC, recoil}] / (\sigma / x_{\text{prime}}) [\text{RECO, calo}]$$



Semileptonic $t\bar{t}$

R for Reco RecoilMET with sorted elec/ γ

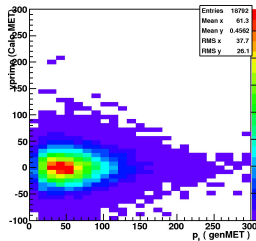
$$R = \frac{(\sigma / \text{xprime}) [\text{XC, recoil}]}{(\sigma / \text{xprime}) [\text{RECO, recoil, sorted elec}/\gamma]}$$



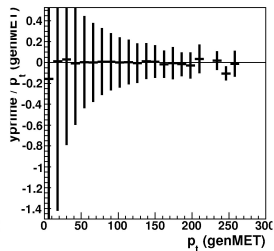
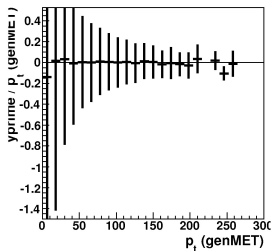
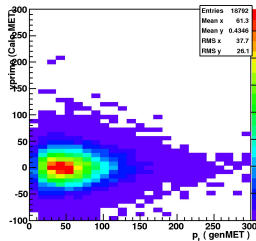
Semileptonic $t\bar{t}$

yprime (caloMET) fit

Reco, emf cut on jets



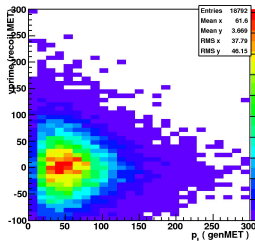
CC, integrated emf cut on jets



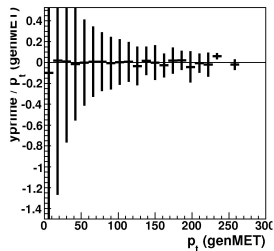
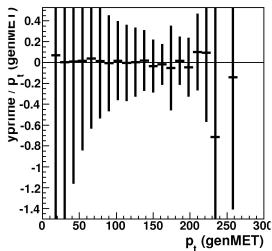
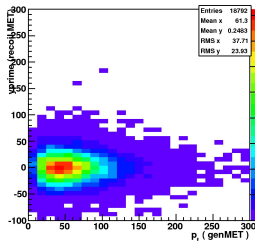
Semileptonic $t\bar{t}$

yprime (recoilMET) fit

Reco, emf cut on jets



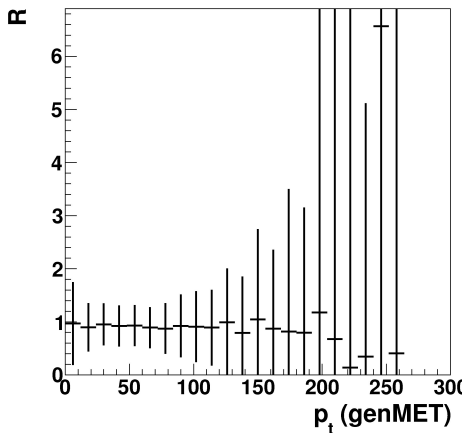
CC, integrated emf cut on jets



Semileptonic $t\bar{t}$

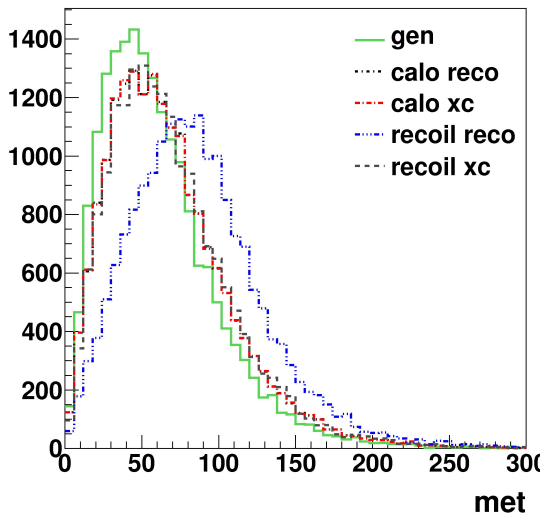
Ratio of Resolutions, yprime

$$R = (\sigma) [\text{XC, recoil}] / (\sigma) [\text{RECO, Calo}]$$



Semileptonic $t\bar{t}$

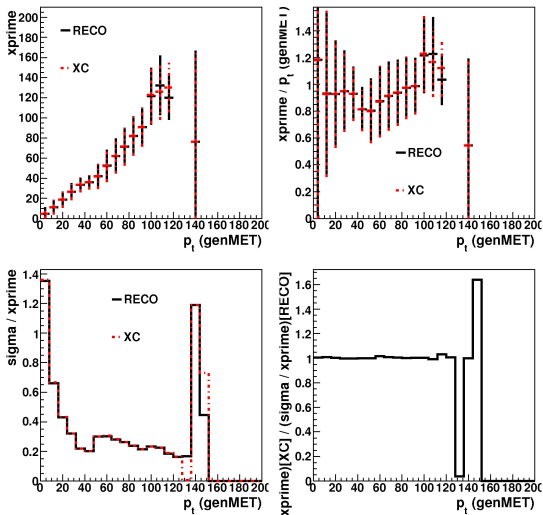
P_T



Backup

$(W^- \rightarrow e\nu) + \text{Jets}$

xprime (caloMET) fit, ii



$(W^- \rightarrow e\nu) + \text{Jets}$

xprime (recoilMET) fit, ii

