

MPF plots

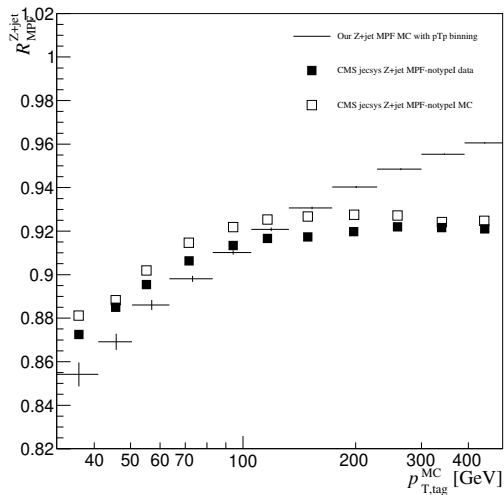
Mikael Myllymaki

August 29, 2019

600k sample

Individual particles

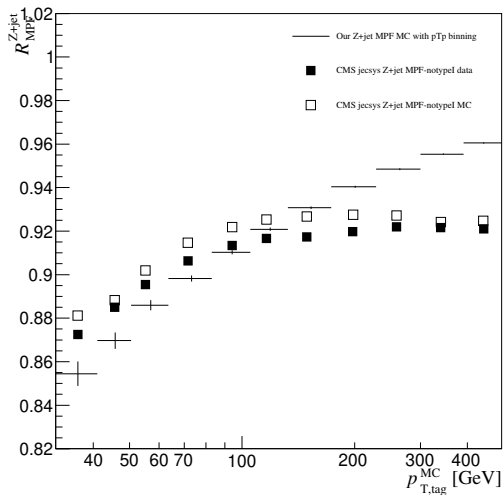
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Using cells

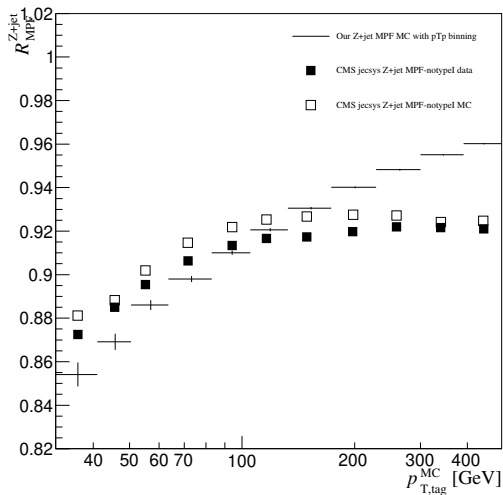
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Calorimeter response from energy

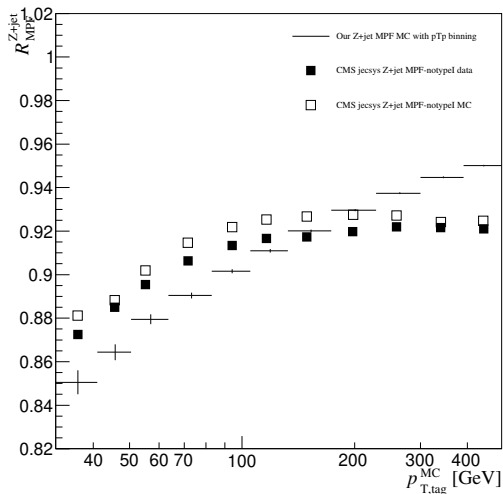
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Shadowing effect

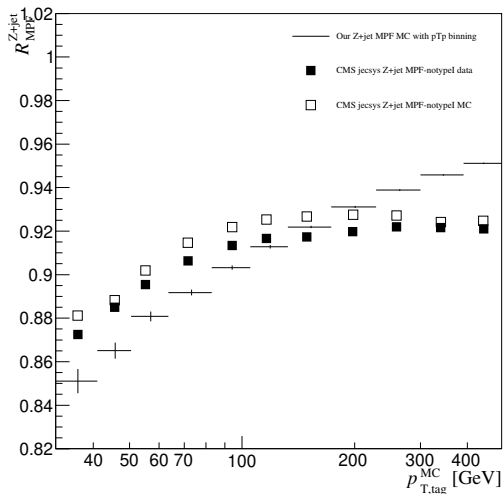
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Shadowing effect with track curvature

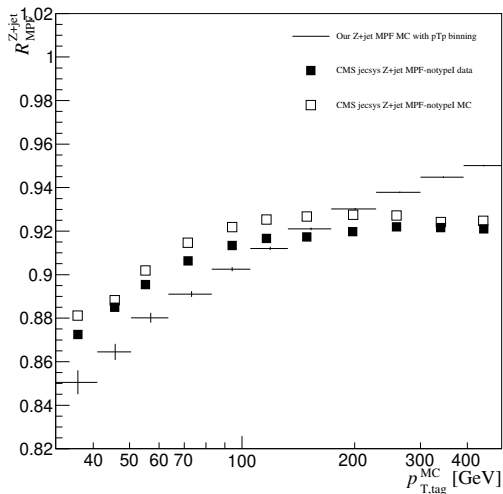
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Shadowing effect with track curvature and $\text{eff} = 0.0003871$ from particles

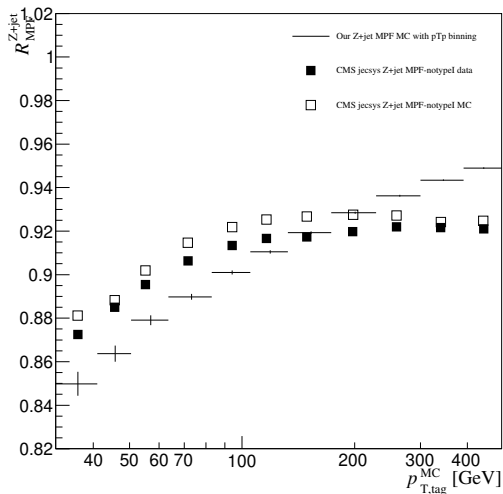
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Shadowing effect with track curvature and $\text{eff} = 0.0003871$ from particles chc to nh

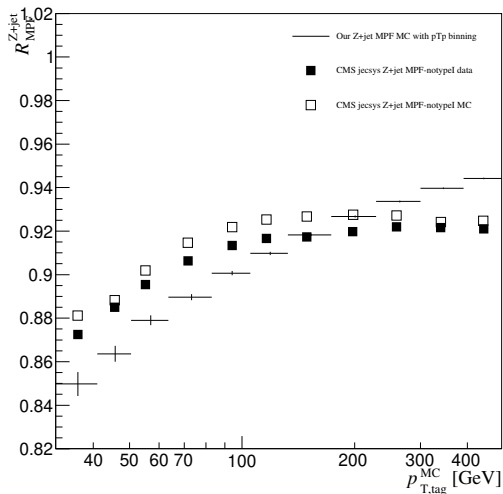
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



600k sample

Shadowing with track curvature and $\text{eff} = 0.0003871$ from cells

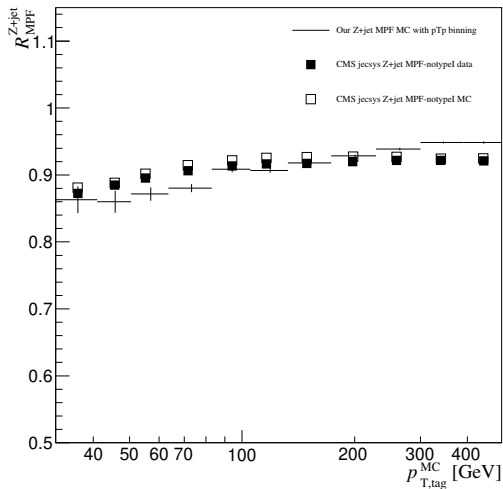
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



Tracking efficiency study (30k sample)

Tracking efficiency 1

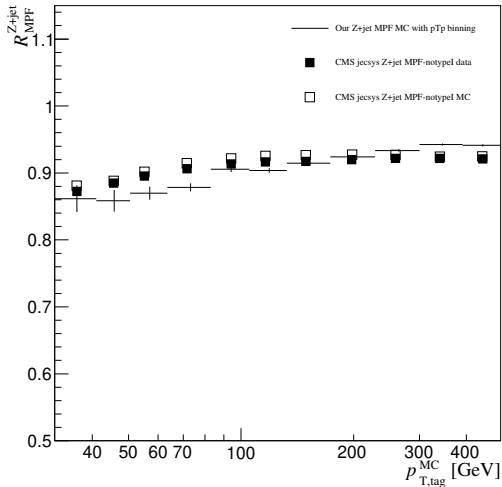
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



Tracking efficiency study (30k sample)

Tracking efficiency $1 - 0.0003781 \cdot p_T$

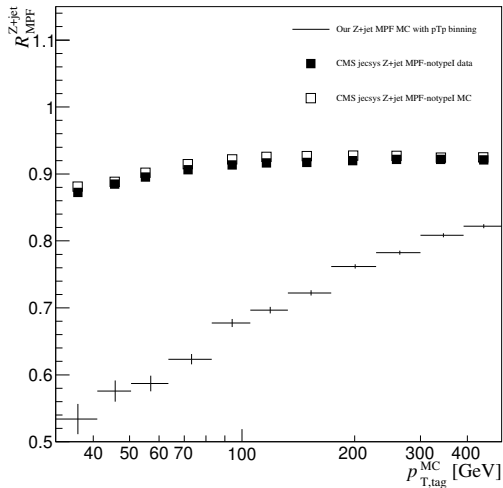
$R_{\text{cone}} = 0.4$ RunCMS, $c\tau = 1$ cm



Tracking efficiency study (30k sample)

Tracking efficiency 0

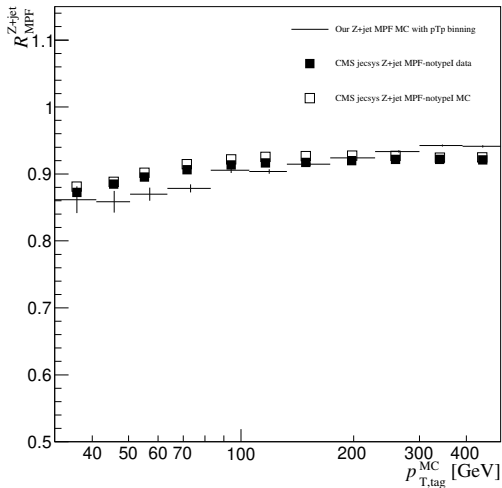
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



Tracking efficiency method (30k sample)

Tracking efficiency $1 - 0.0003781 \cdot p_T$ from cells

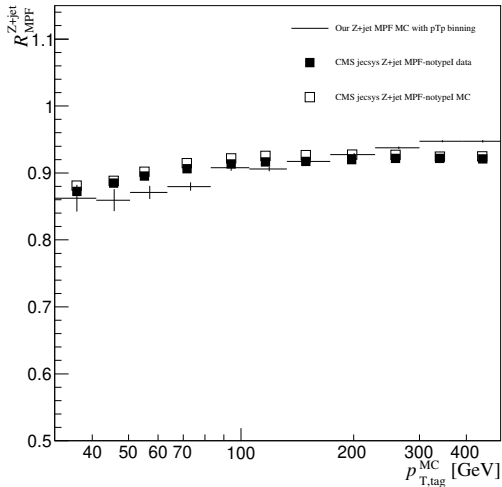
$R_{\text{cone}} = 0.4 \text{ RunCMS}, c\tau = 1 \text{ cm}$



Tracking efficiency method (30k sample)

Tracking efficiency $1 - 0.0003781 \cdot p_T$ from particles

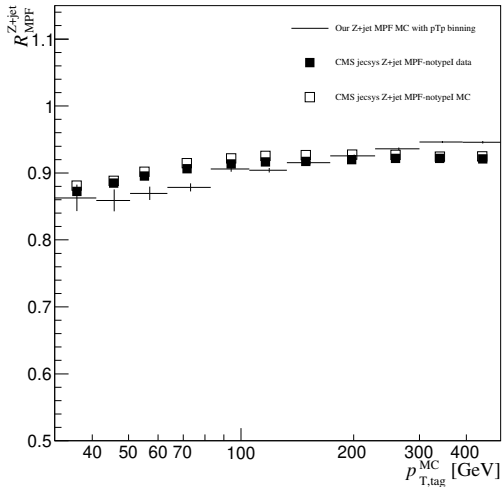
$R_{\text{cone}} = 0.4 R_{\text{RunCMS}}, c\tau = 1 \text{ cm}$



Tracking efficiency method (30k sample)

Tracking efficiency $1 - 0.0003781 * p_T$ from particles nh

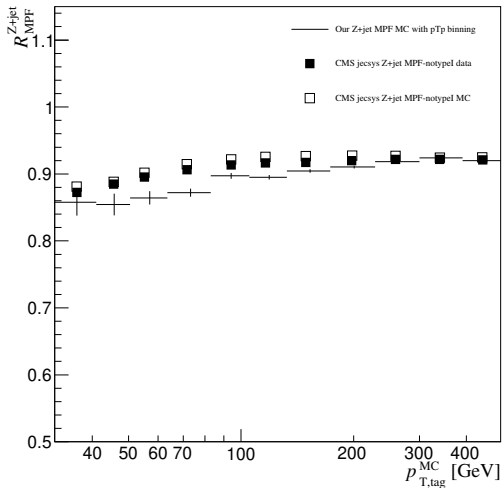
$R_{\text{cone}} = 0.4$ RunCMS, $c\tau = 1$ cm



Tracking efficiency method (30k sample)

Tracking efficiency $1-4 \cdot 0.0003781 \cdot p_T$ from cells

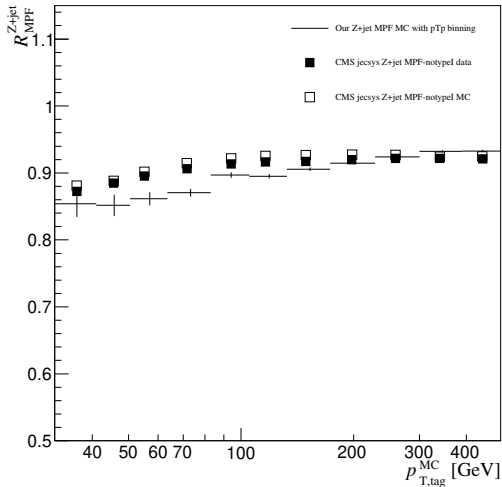
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



Tracking efficiency method (30k sample)

Tracking efficiency $1-15 \cdot 0.0003781 \cdot p_T$ from particles

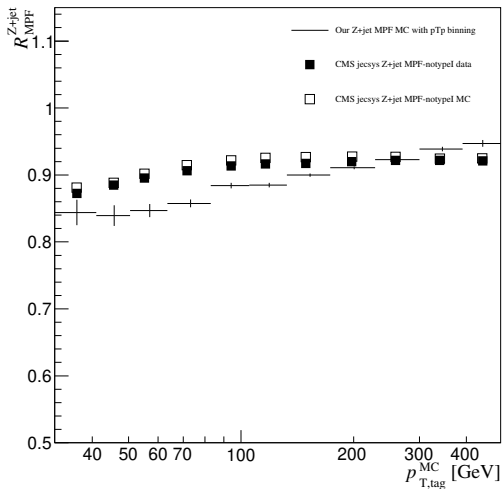
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



Tracking efficiency method (30k sample)

Tracking efficiency $1-15 \cdot 0.0003781 \cdot p_T$ from particles nh

$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm

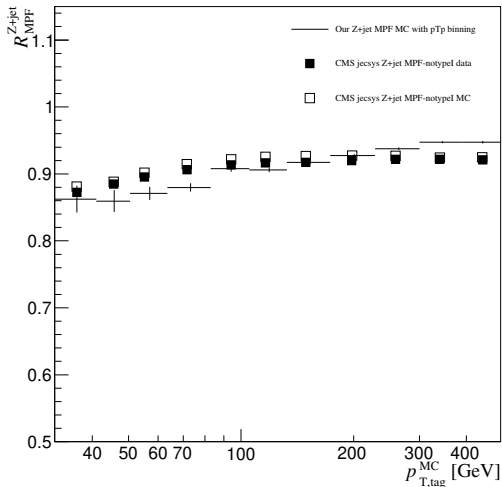


pT cut study

Normal pT cuts using shadowing and tracking efficiency

$1 - 0.0003781 * p_T$ from particles

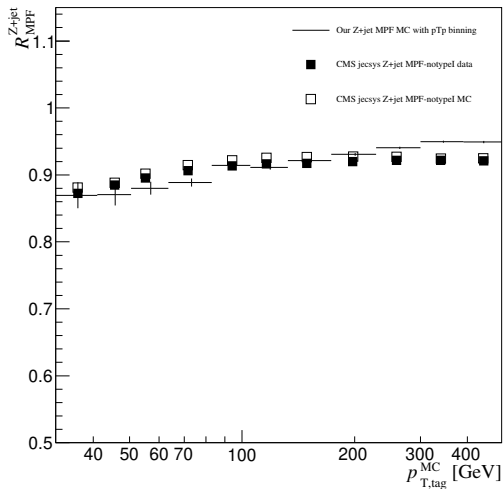
$R_{\text{cone}} = 0.4$ RunCMS, $c\tau = 1$ cm



pT cut study

Remove pT reco < 0.5 cut

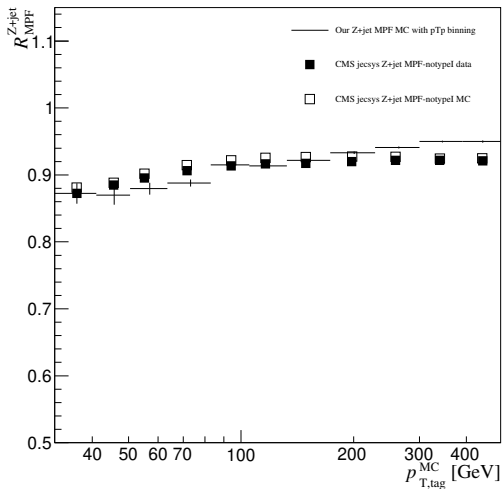
$R_{\text{cone}} = 0.4$ RunCMS, $c\tau = 1$ cm



pT cut study

SPR stepfunction from pT to energy with pT reco < 0.5 cut

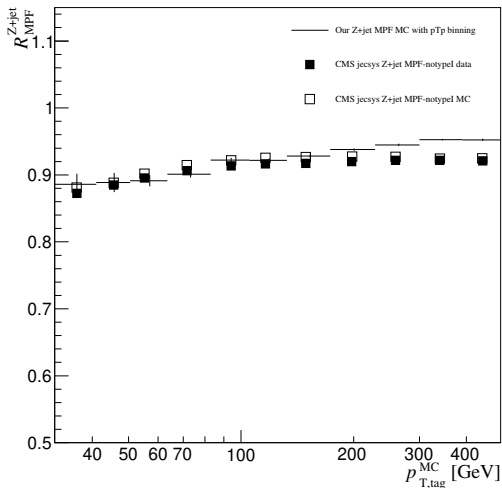
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



pT cut study

SPR stepfunction from pT to energy and remove pT reco < 0.5 cut

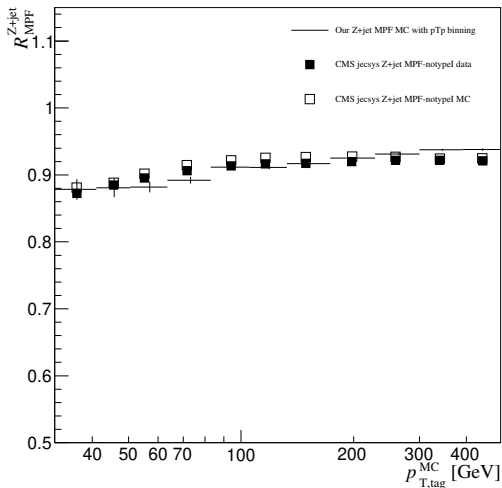
$R_{\text{cone}}=0.4$ RunCMS, $c\tau=1$ cm



pT cut study

SPR stepfunction from pT to energy and remove pT reco < 0.5 cut
Tracking efficiency $1 - 15 \cdot 0.0003781 \cdot pT$ from particles

$$R_{\text{cone}} = 0.4 \text{ RunCMS, } c\tau = 1 \text{ cm}$$

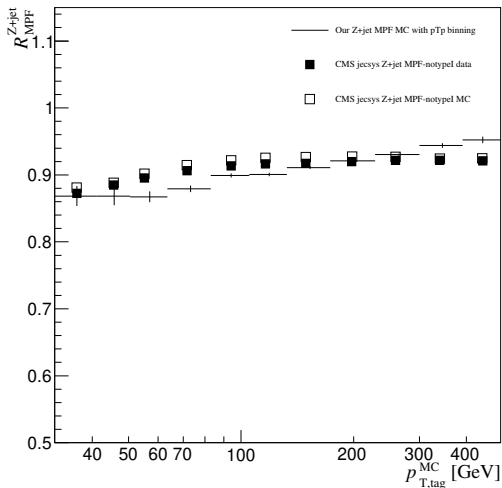


pT cut study

SPR stepfunction from pT to energy and remove pT reco < 0.5 cut

Tracking efficiency $1 - 15 \times 0.0003781 \times pT$ from particles nh

$$R_{\text{cone}} = 0.4 \text{ RunCMS, } c\tau = 1 \text{ cm}$$



pT cut study

SPR stepfunction from pT to energy and remove pT reco < 0.5 cut

Tracking efficiency $1 - 4 \times 0.0003781 \times pT$ from cells

$$R_{\text{cone}} = 0.4 \text{ RunCMS, } c\tau = 1 \text{ cm}$$

