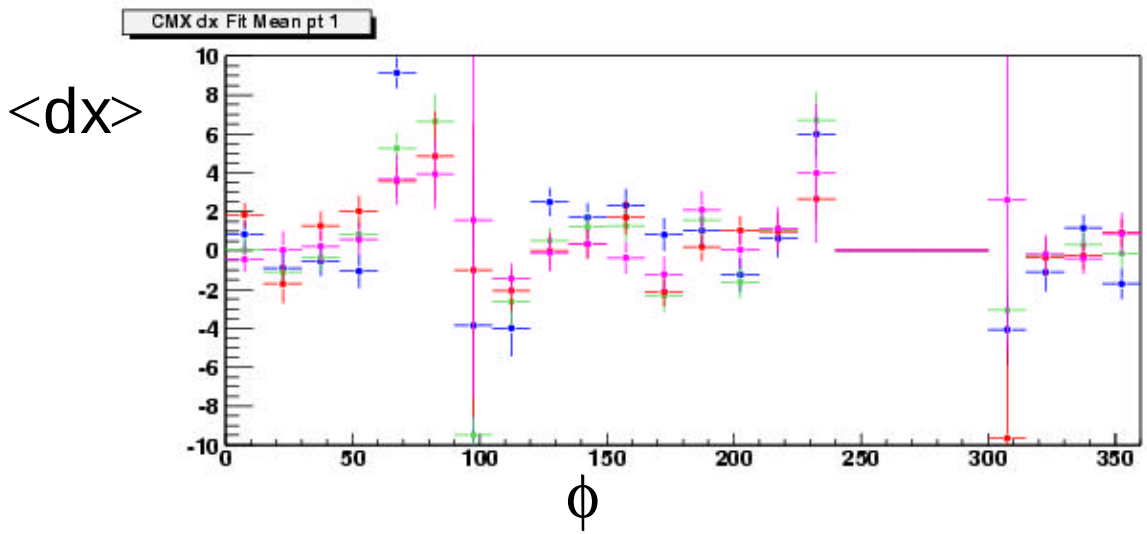
Parametrisation of CMX σ_{dx}: removing η dependency

- Use Slava <dx> corrections
- Remove the η dependency
- Get new preliminary parameterisation for CMX σ_{dx}

Applying Slava corrections

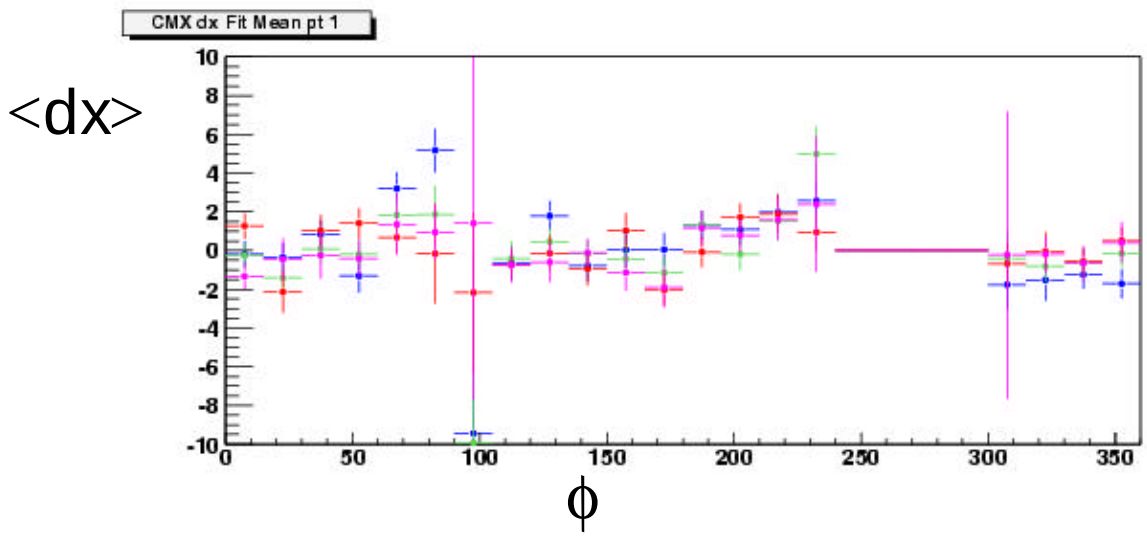
Correct for:

- Alignment
- pT
- ϕ



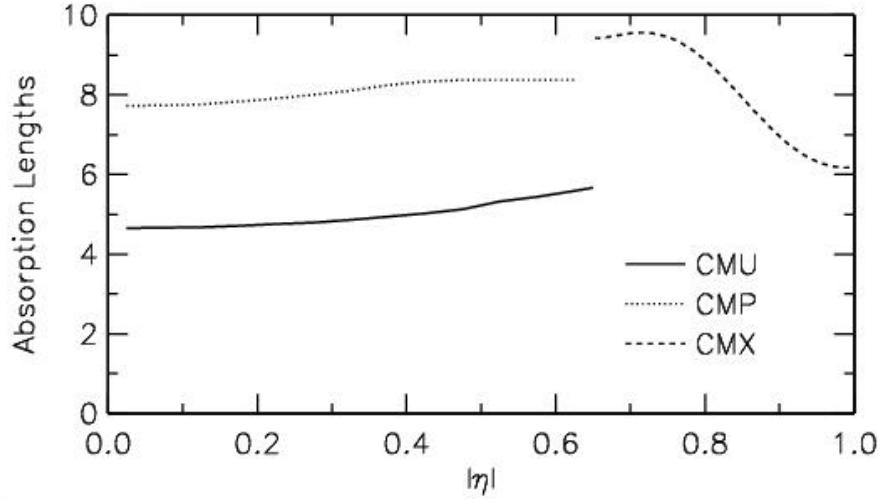
Before

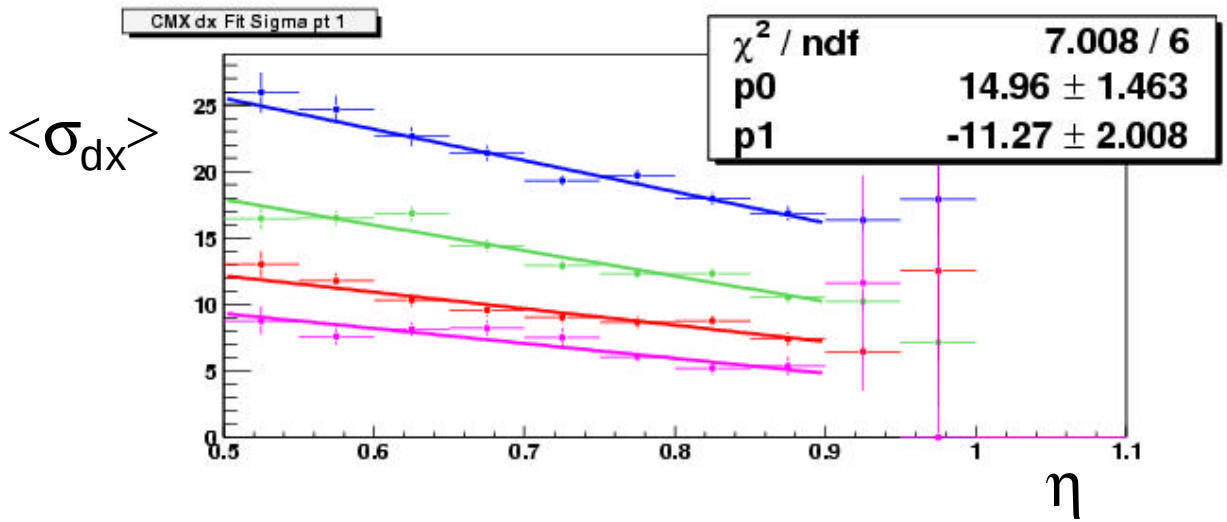
- $2<p_T<3$
- $3<p_T<4$
- $4<p_T<5$
- $5<p_T<6$



After

Removing η dependency:

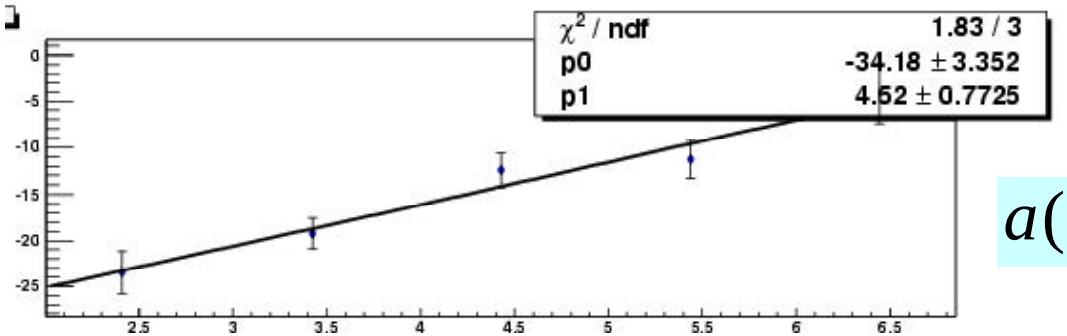




$$s_{dx}(p_T, h) = a(p_T) \times h + b(p_T)$$

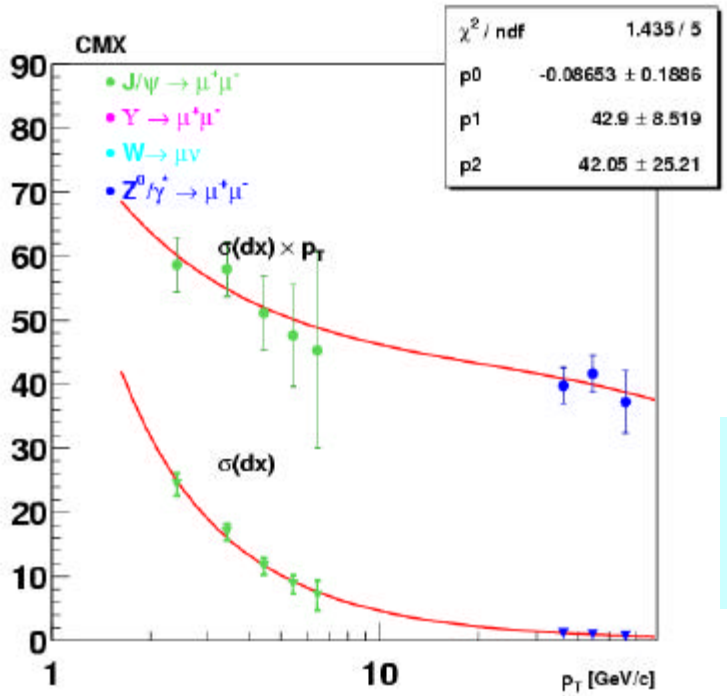
@ η=0

Getting the parametrisation:



$$a(p_T) = -34.18 + 4.52 \times p_T$$

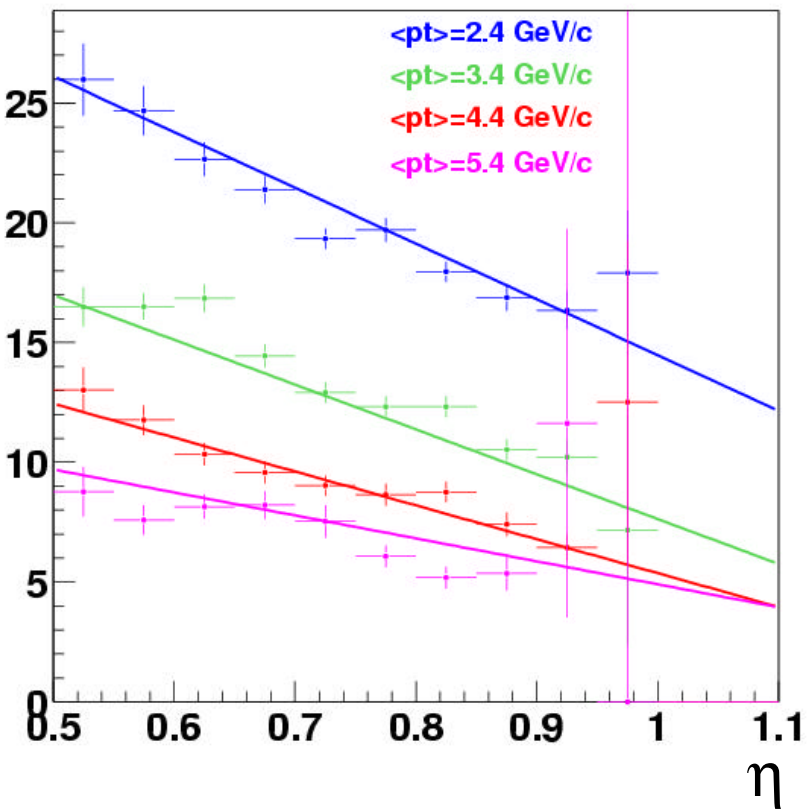
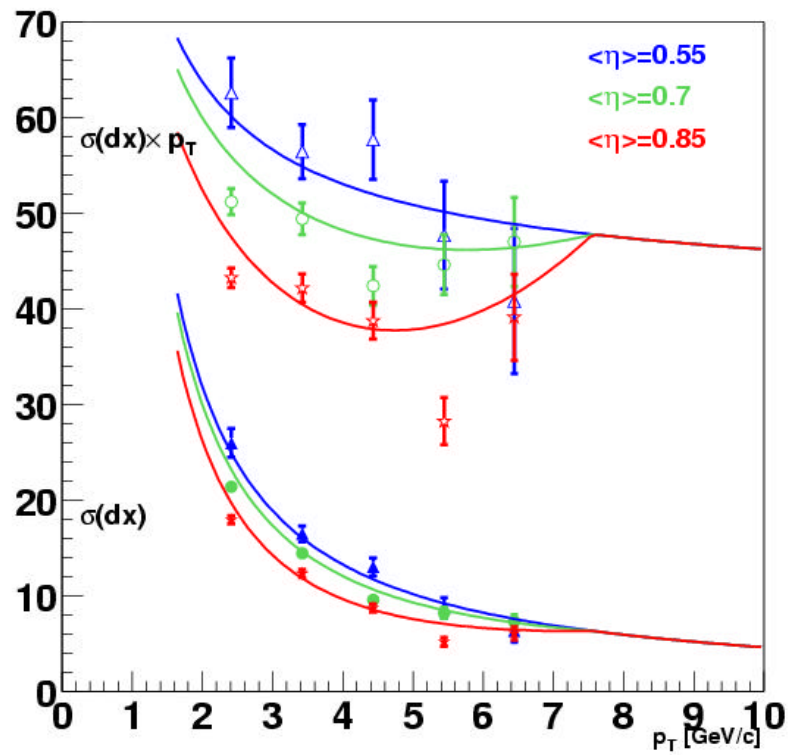
b'(p_T)



Project b(pT) to η=0.55 (1st eta bin)

$$b'(p_T) = a(p_T) \times 0.55 + b(p_T)$$

$$b'(p_T) = -0.0865 + \frac{42.9}{p_T} + \frac{42.05}{p_T^{\,2}}$$

Putting it all together and cross checks:

$$s_{dx}(p_T,h) = \min[-34.18 + 4.52 \times p_T;0] \times (h - 0.55) + \left[-0.0865 + \frac{42.9}{p_T} + \frac{42.05}{p_T^{\,2}}\right]$$