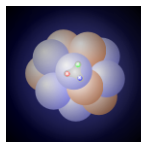


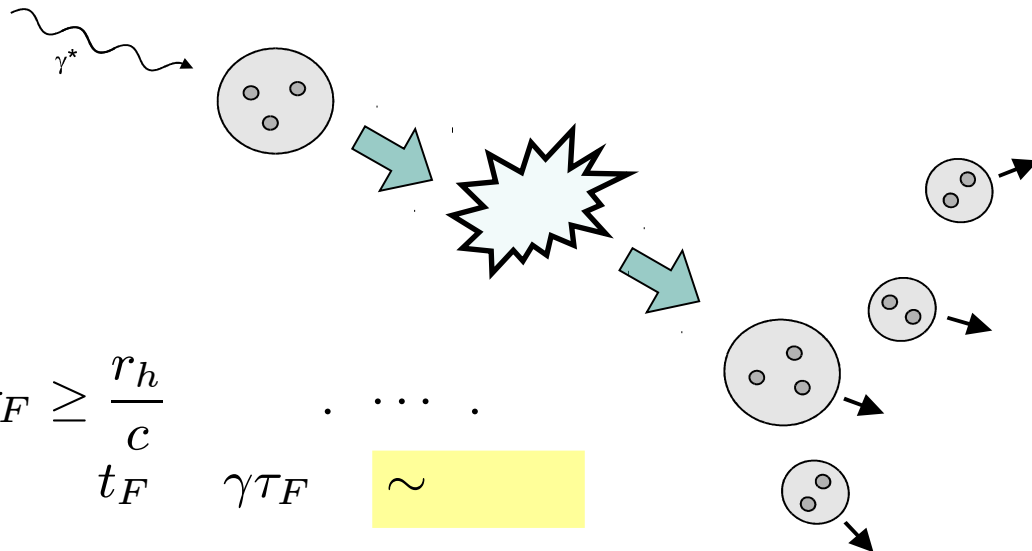
Hadronization in Cold Nuclear Matter

K. Gallmeister, U. Mosel

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$$\tau_F \geq \frac{r_h}{c}$$

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$$t_F$$

$$\gamma^{\tau_F}$$

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$$\sigma^* / \sigma_H \sim t^{0|1|2\dots}$$

■ \$. / # 0

■ $R^h(z_h, \dots) = \frac{N(z_h, \dots)_A}{N(z_h, \dots)_D}$

■ $p_T^2 = \langle p_T^2 \rangle_A - \langle p_T^2 \rangle_D$

■ 3 \$

■ # \$

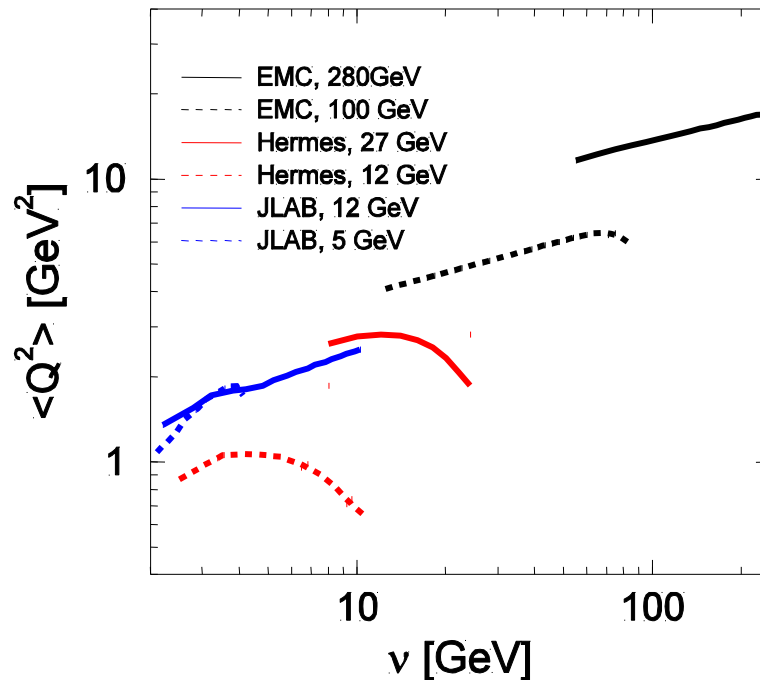
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■ $+ z_h \frac{E_h}{\nu}, p_T, \dots$

■ $+ \nu, Q^2, W, x_B, \dots$



■ $\gamma^* N \rightarrow X$ using PYTHIA

additional:

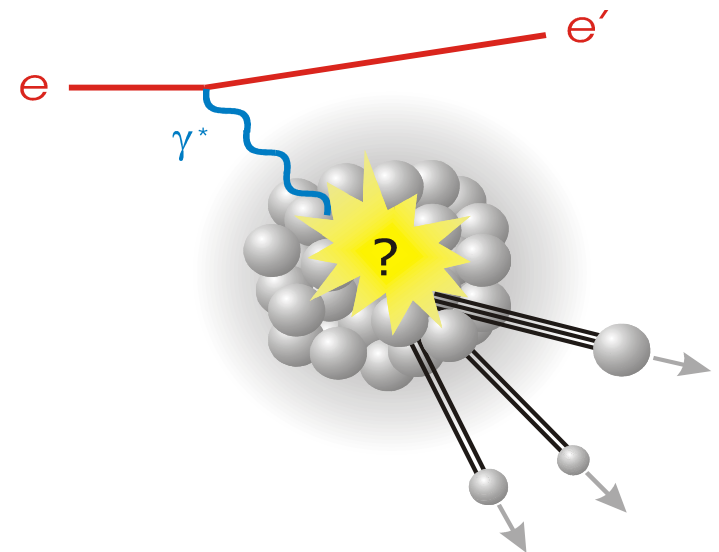
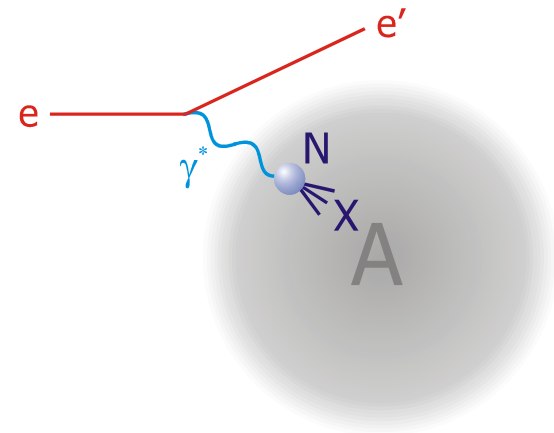
- binding energies
- Fermi motion
- Pauli blocking
- coherence length effects

extended for exclusive channels

■ propagation of final state X within GiBUU transport model

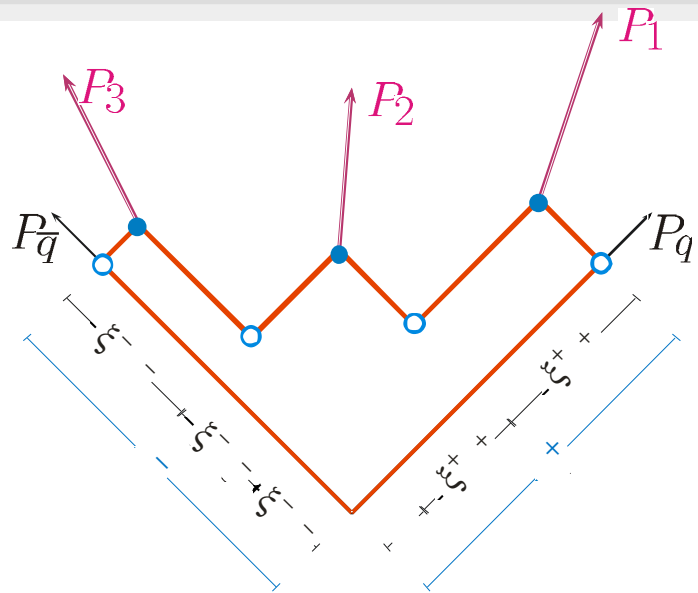
<http://gibuu.physik.uni-giessen.de>

- elastic/inelastic scatterings (coupled channels)
- experimental acceptance



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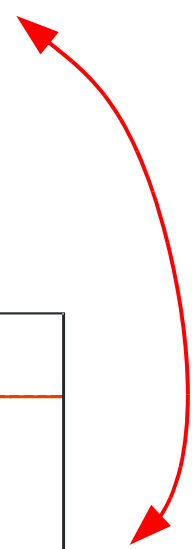
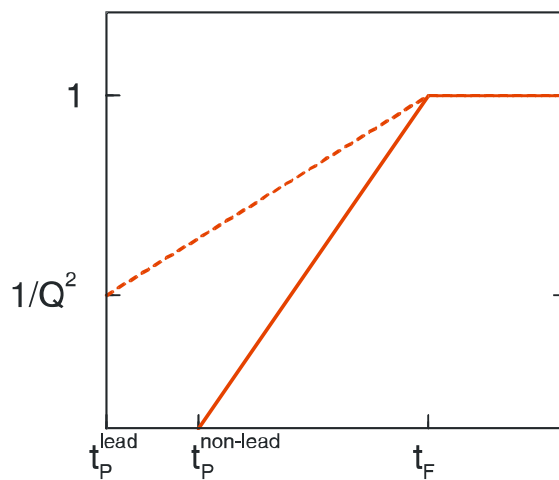
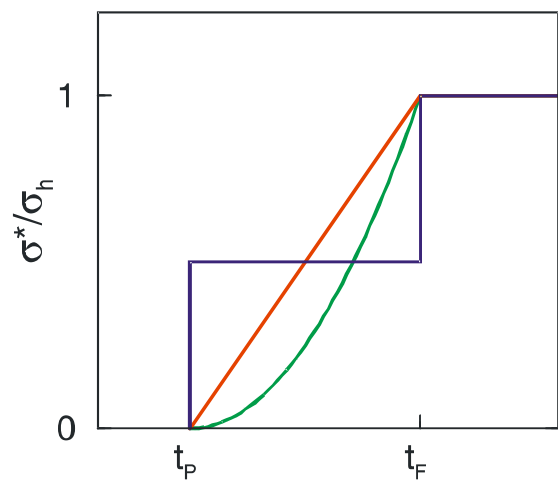
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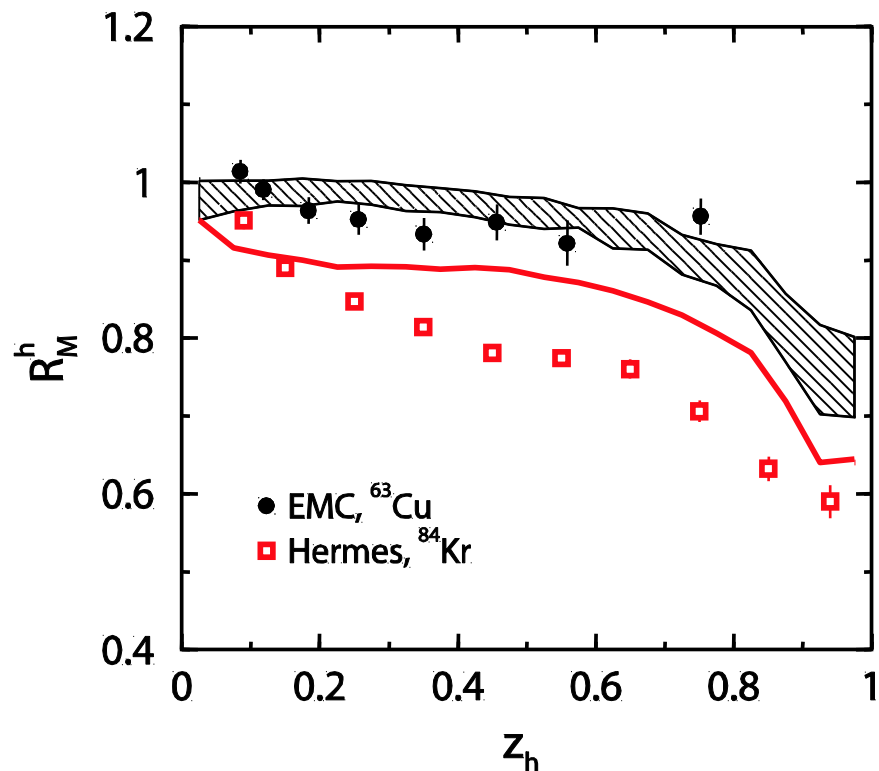
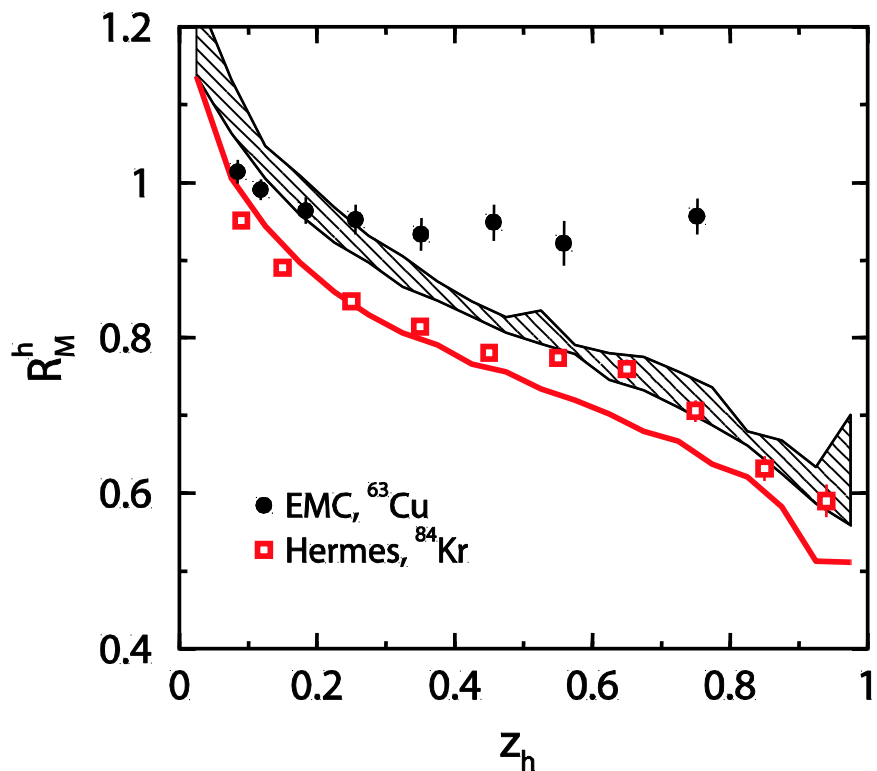


$$t \quad t_P \cdots t_F$$

$$\sigma^* \quad \cdot \quad \sigma_H$$



$$\sigma^* \quad \frac{t - t_P}{t_F - t_P}^2 \quad \sigma_H$$



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$$\frac{\sigma^*}{\sigma_H}$$

$$\frac{r_{\text{lead}}}{Q^2}$$

$$-\frac{r_{\text{lead}}}{Q^2}$$

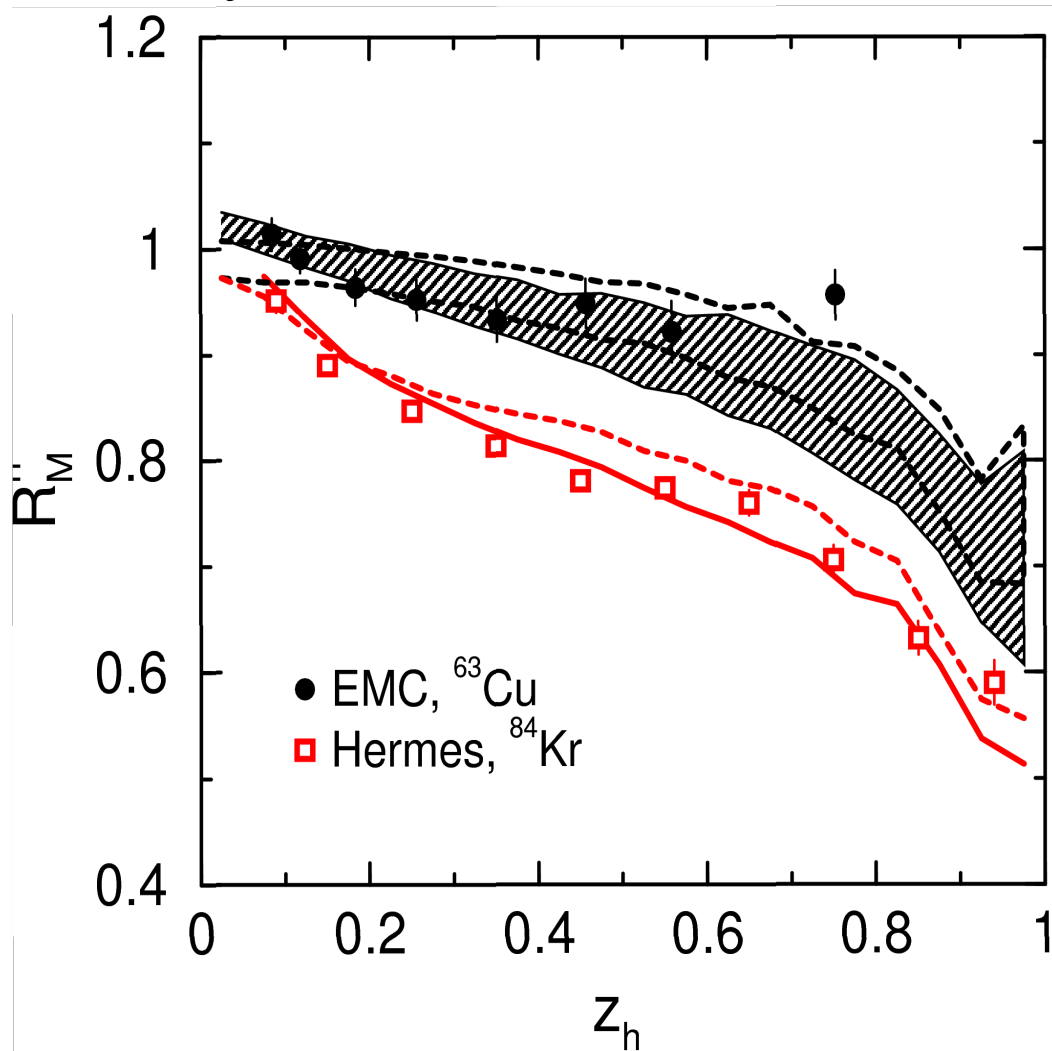
$$\frac{t - t_P}{t_F - t_P}$$

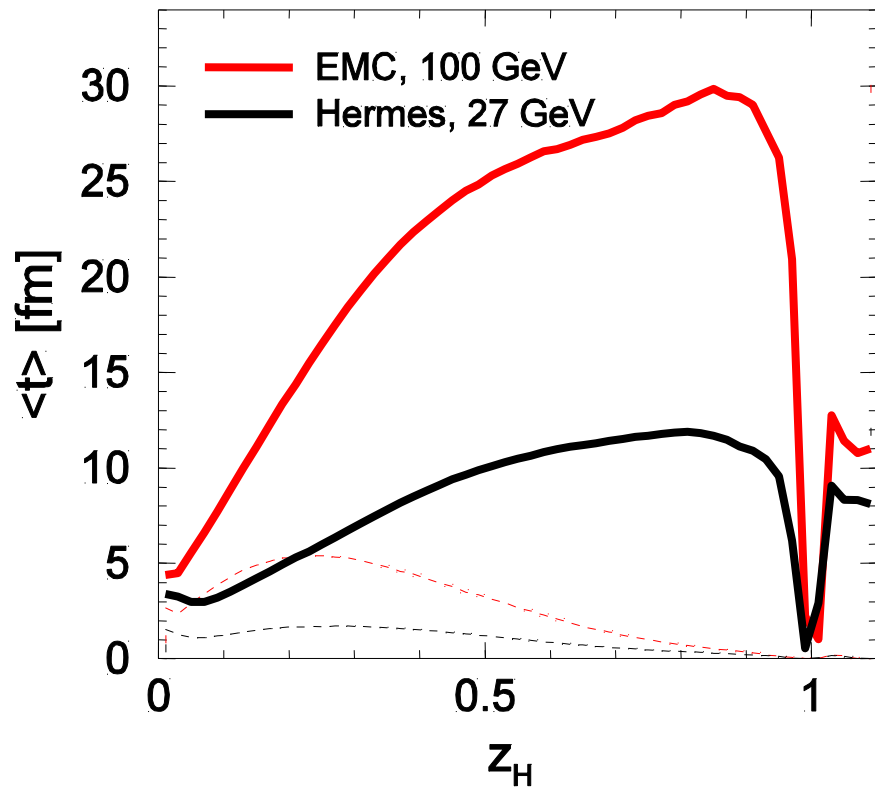


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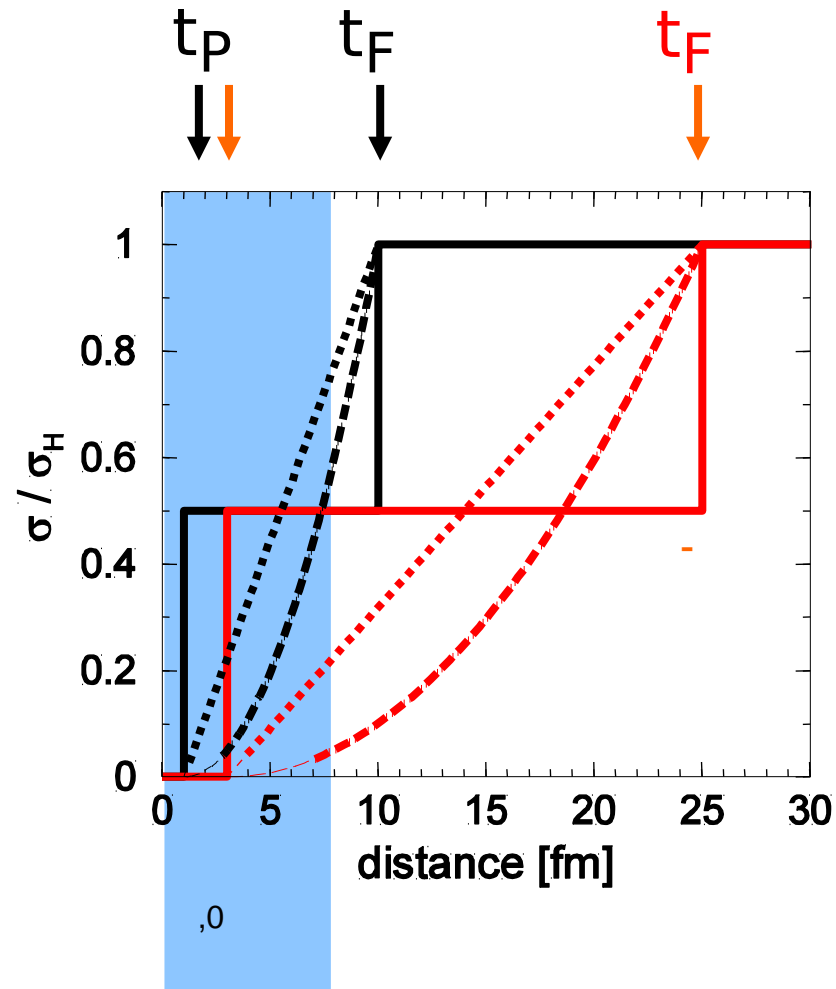
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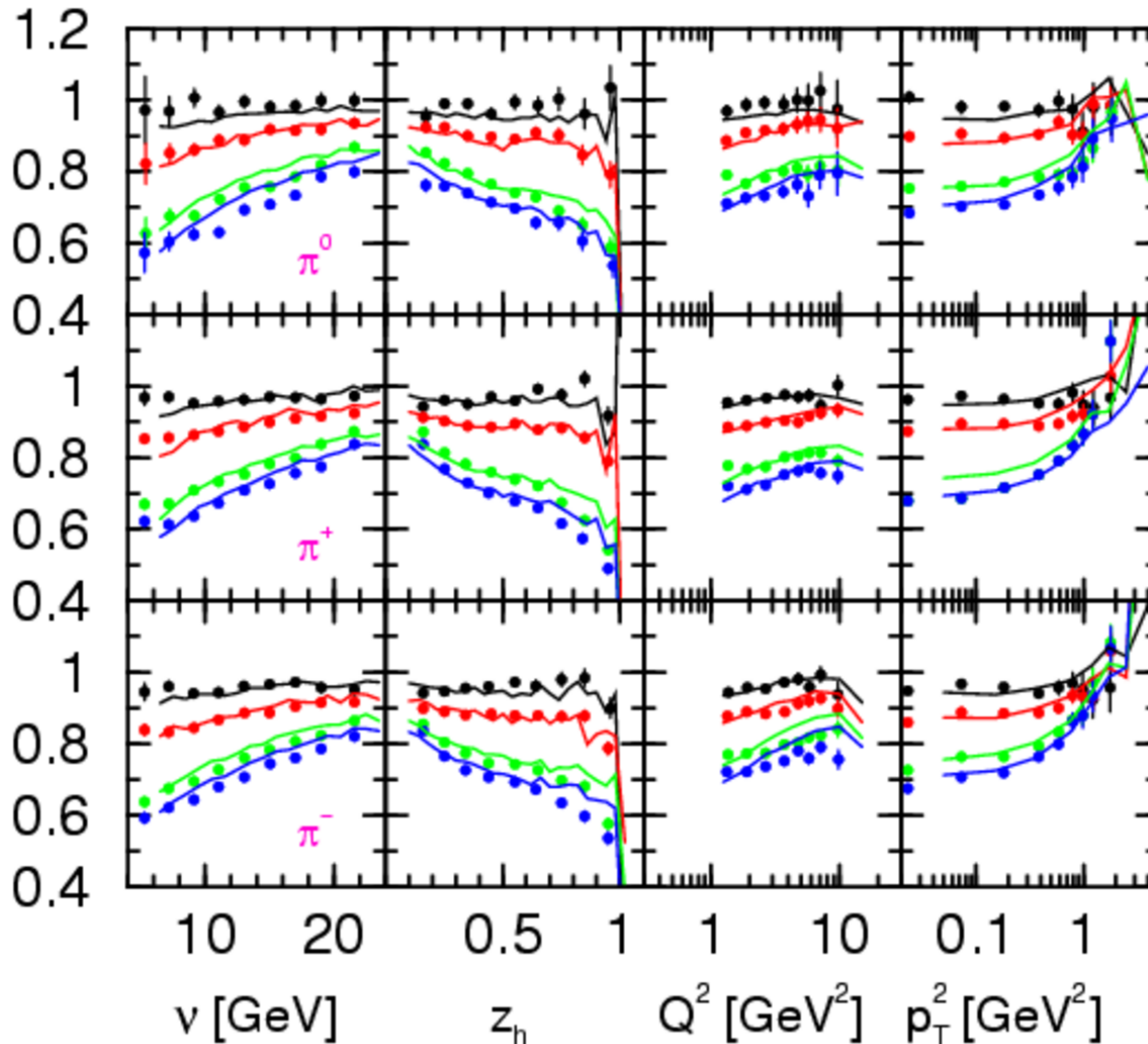




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Pions

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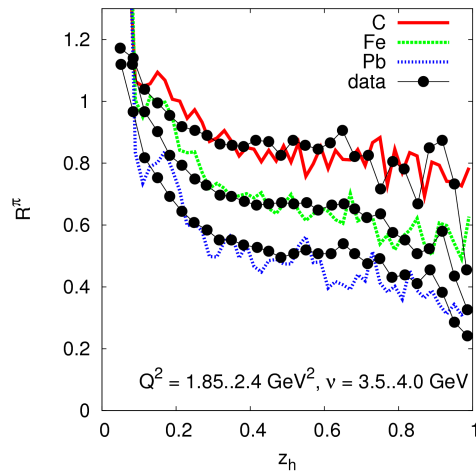
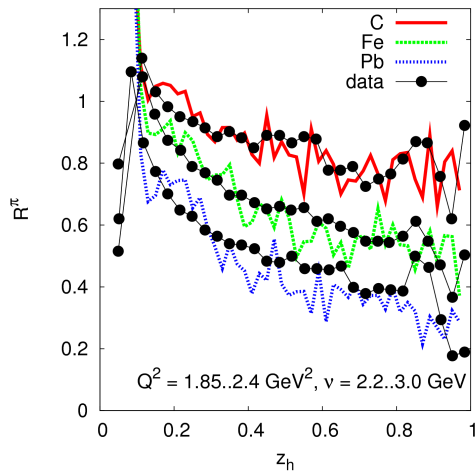
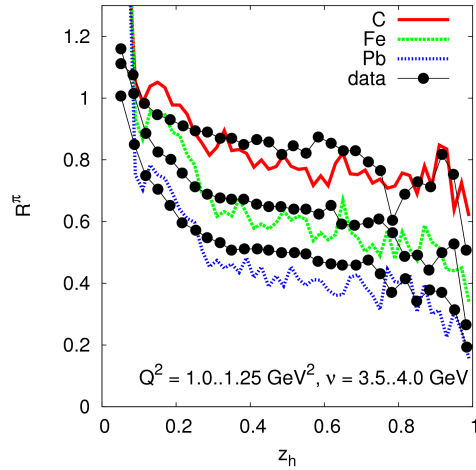
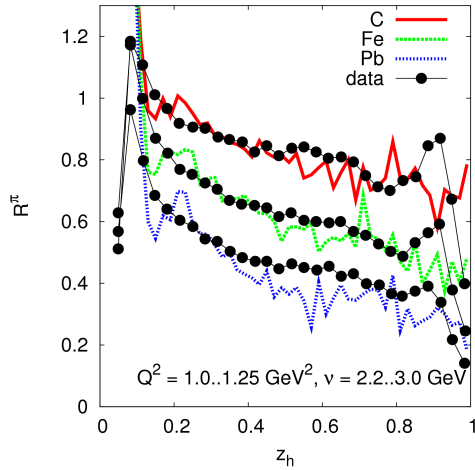
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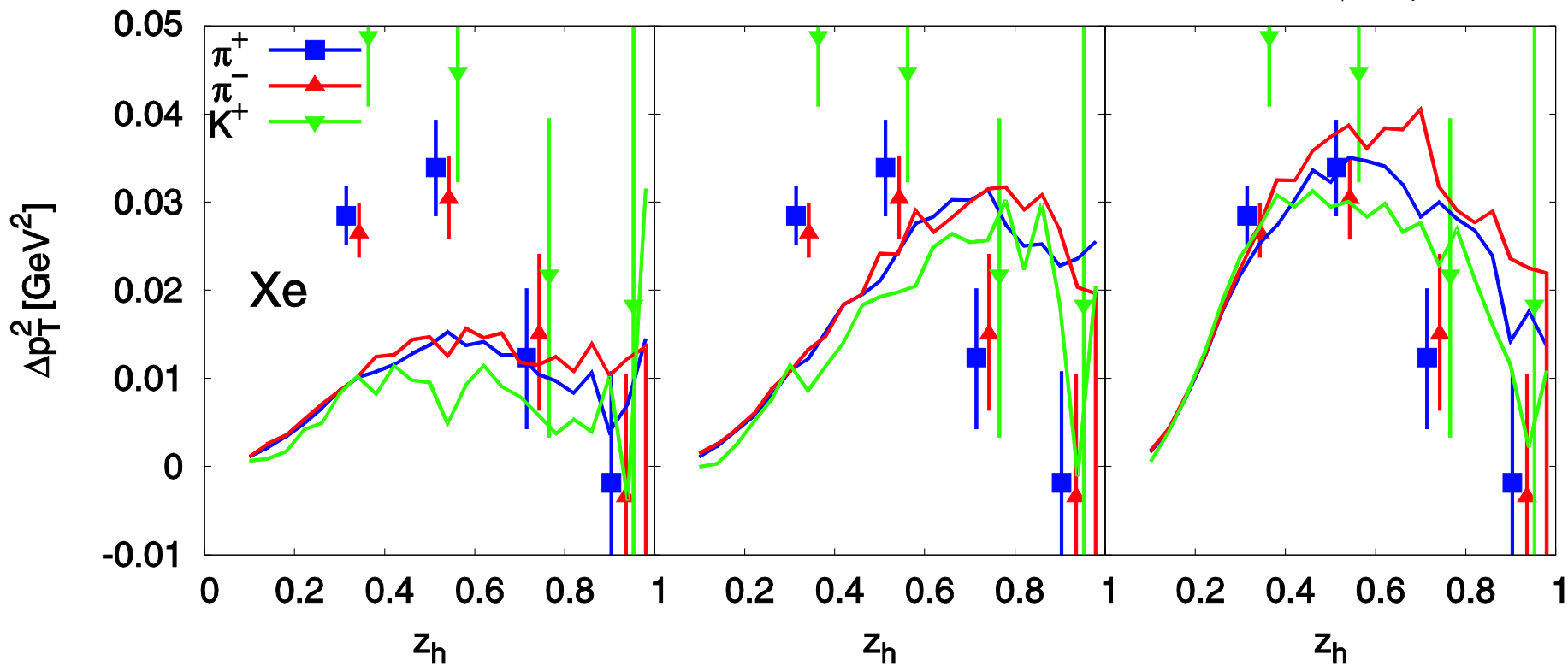
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$$p_T^2 \quad \langle p_T^2 \rangle_A - \langle p_T^2 \rangle_D$$

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$$p_T^2 \quad \langle p_T^2 \rangle_A - \langle p_T^2 \rangle_D$$

$$R_A p_T$$

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$\langle k_T^2 \rangle_{Xe}$

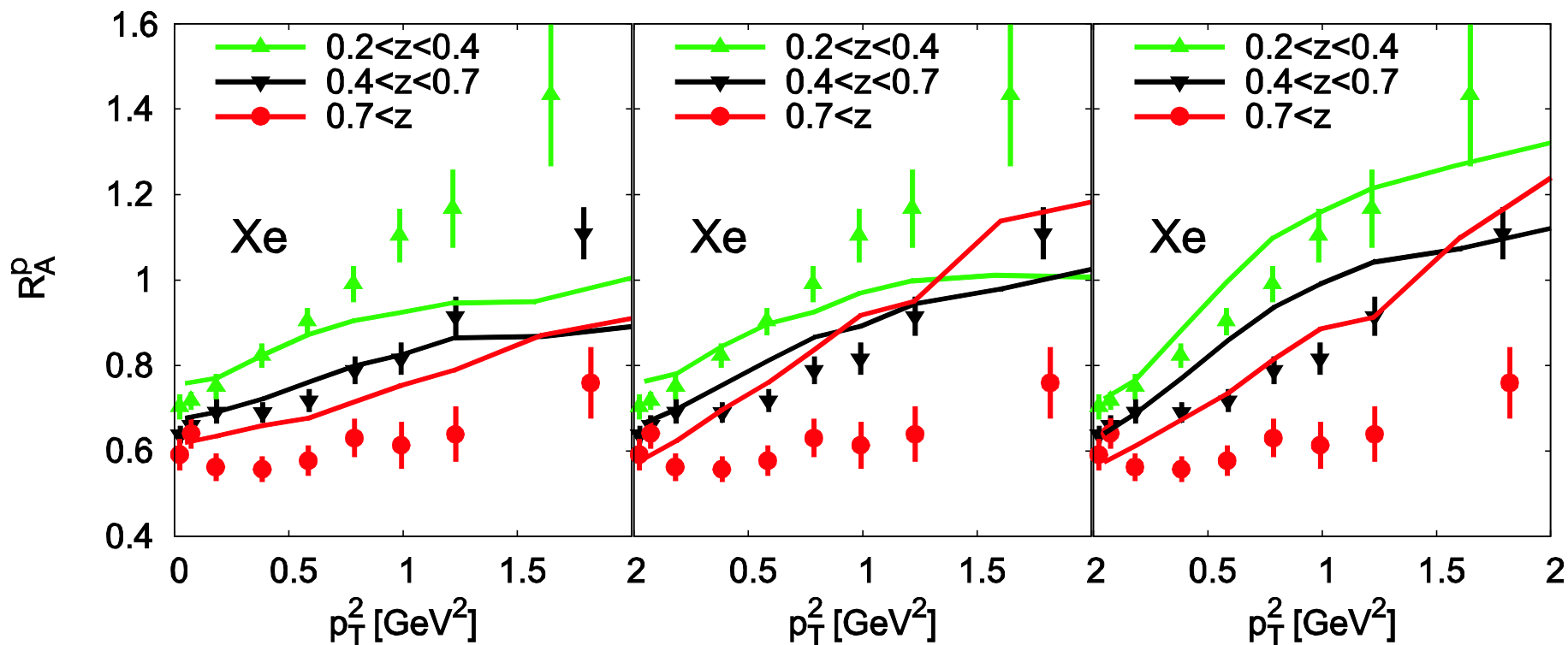
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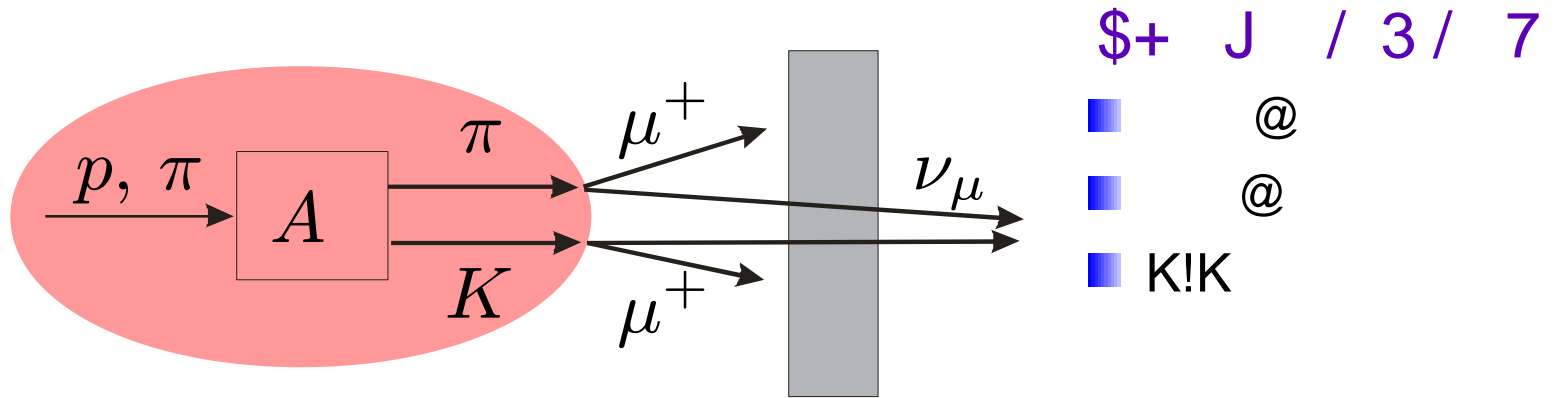
$\sigma_p Xe$

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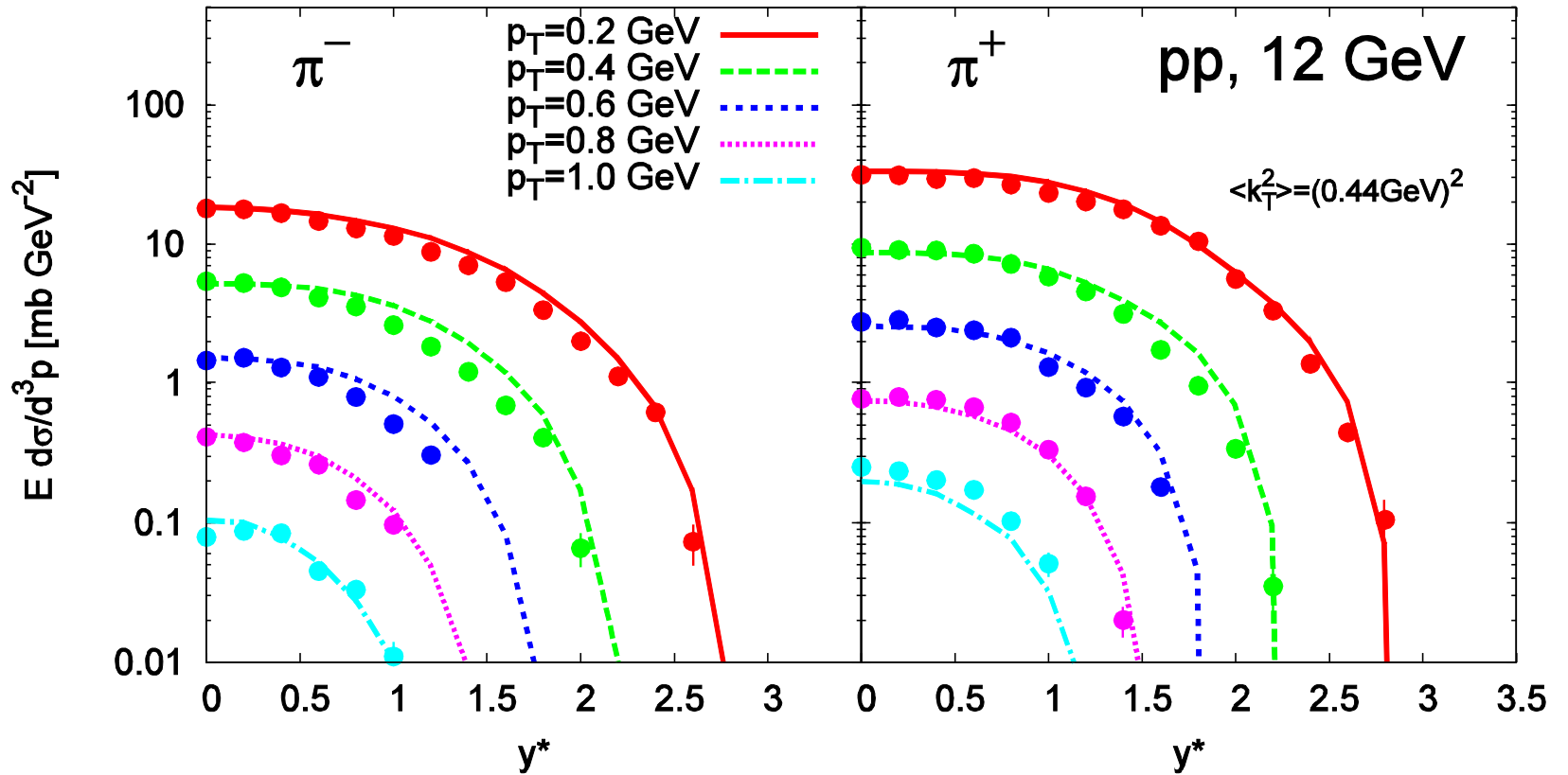


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& $pp \rightarrow \pi^\pm X$

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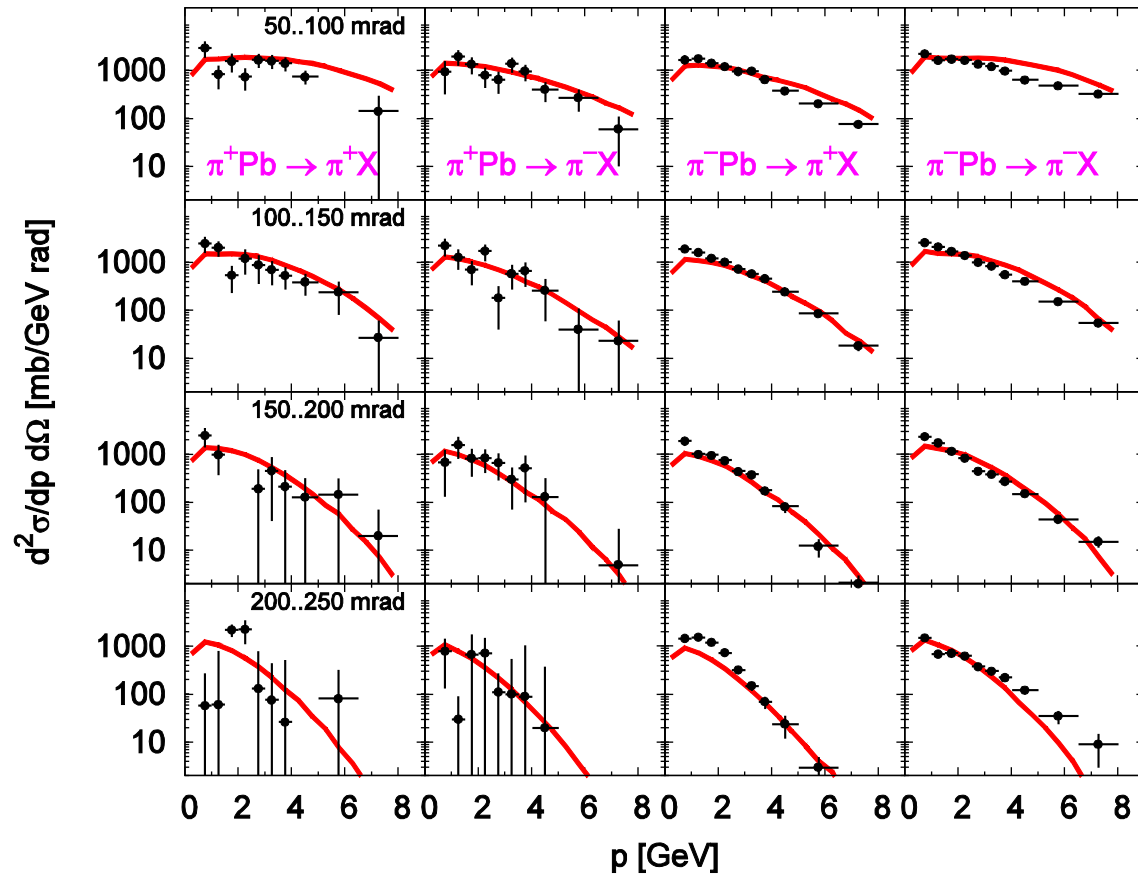
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$\pi^\pm Pb \rightarrow \pi^\pm X$: (0^*)

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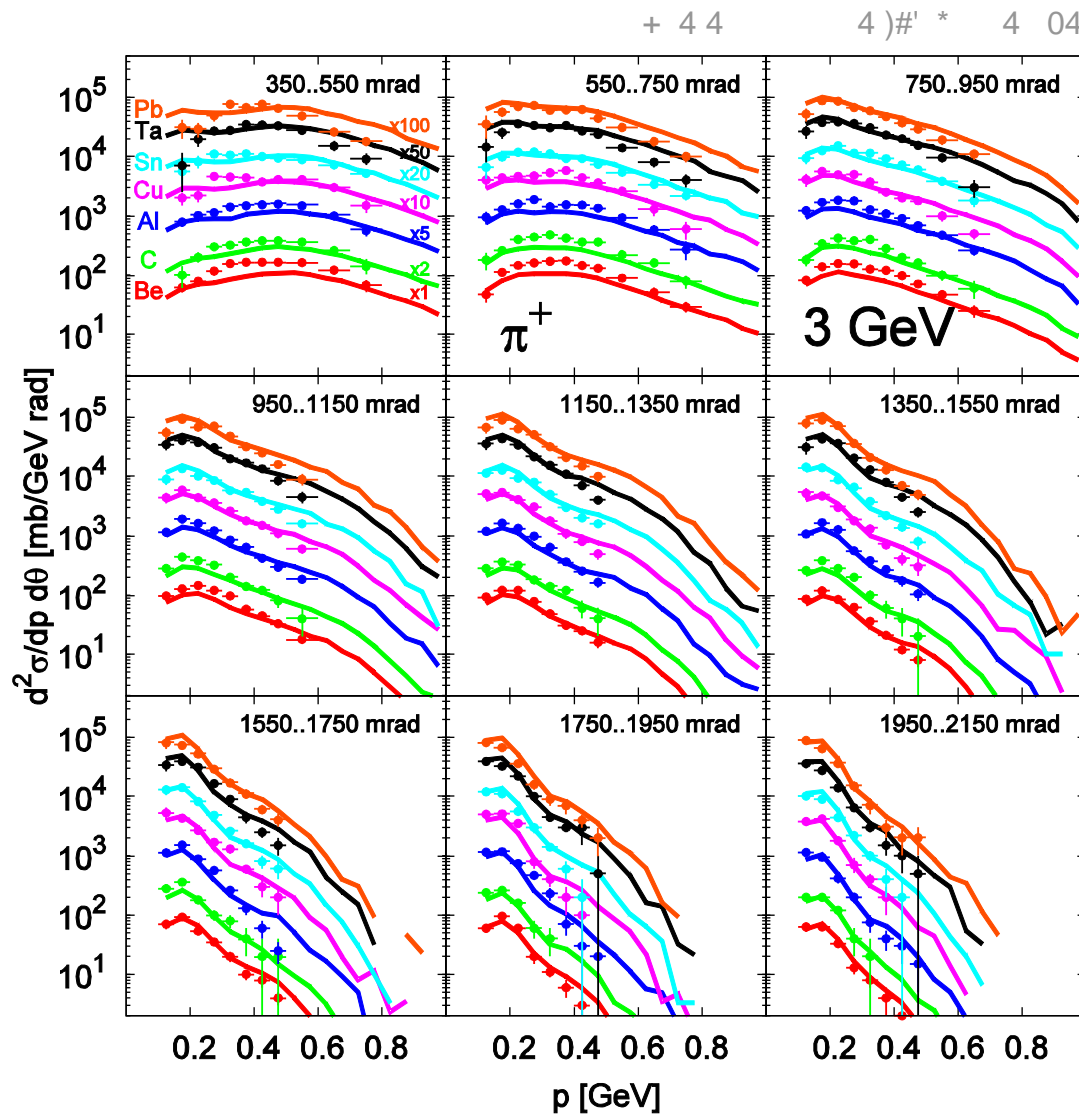
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$$pA \rightarrow \pi^+ X \quad 0 \leq \theta < 0^*$$



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