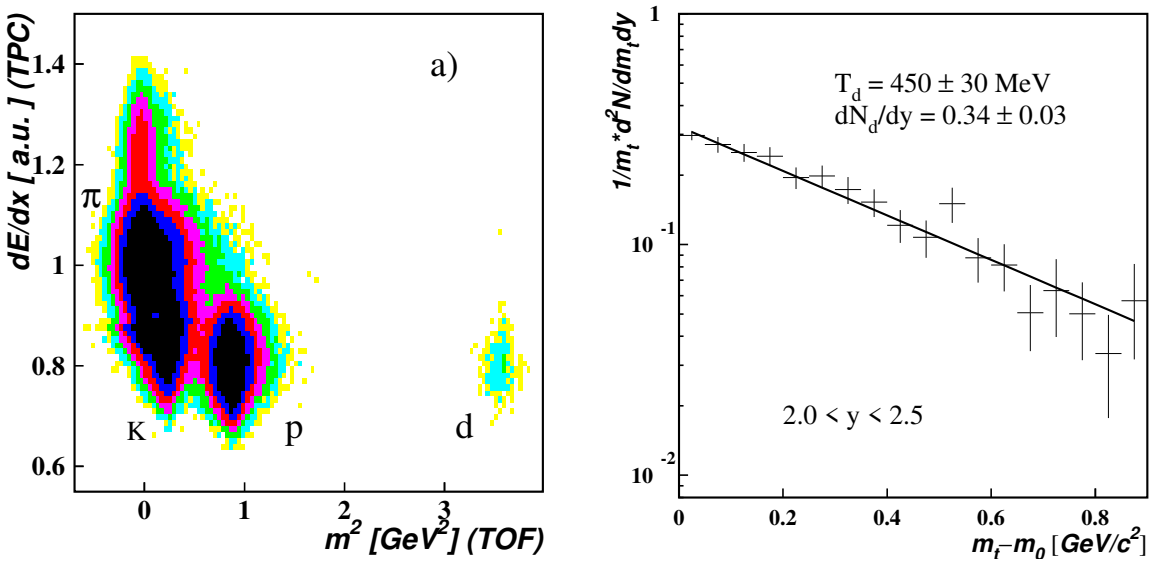
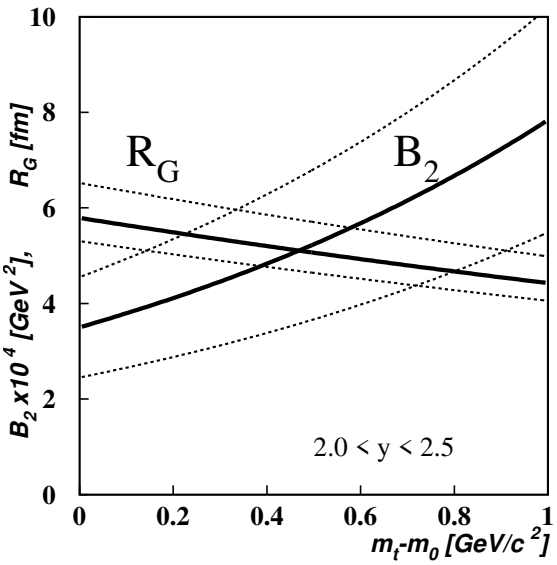
Deuteron production

information on freezeout stage via coalescence model



derive coalescence factor B_2 using d and p spectra:

$$B_2 = (E_d \cdot d^3N_d/dP_d^3)/(E_p \cdot d^3N_p/dP_p^3)^2 \text{ at } P_d = 2P_p$$



estimate of freezeout radius: $R_G^3 = \frac{3}{4}(\sqrt{\pi}\hbar)^3 \cdot \frac{m_d}{m_p^2} \cdot \frac{1}{B_2}$

result consistent with $\pi\pi$ BE–correlation measurement