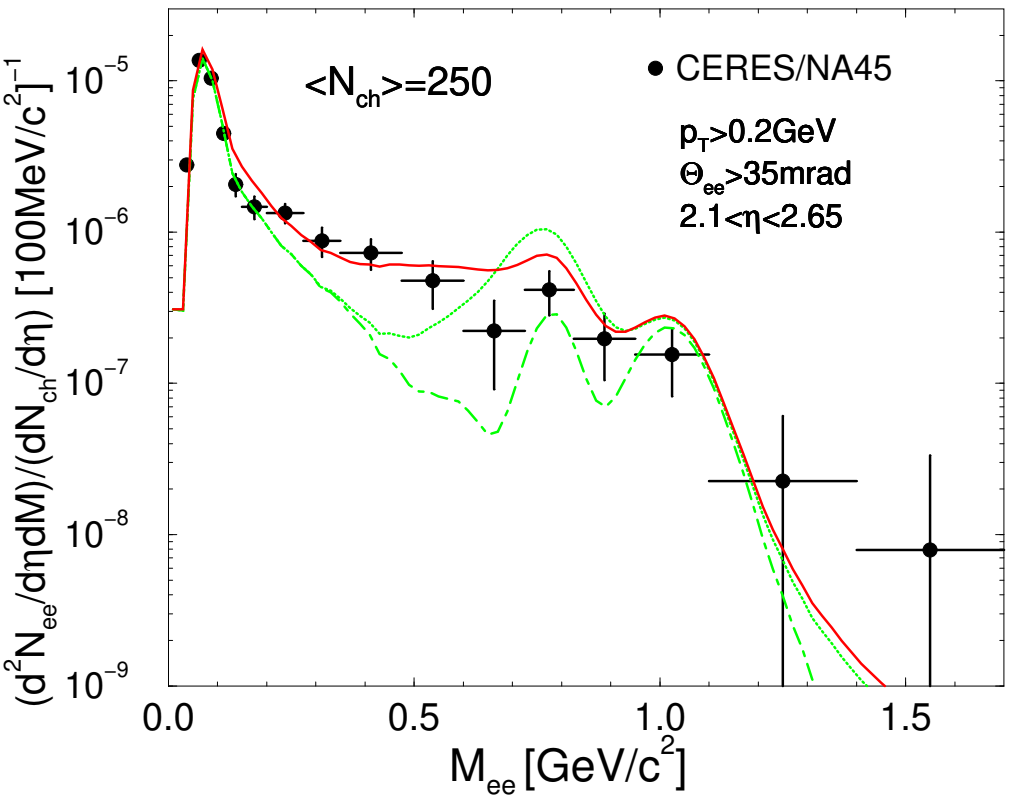
Dilepton Production

local rate: (local equilibrium)

$$\frac{dN_{e^+e^-}}{d^4x d^4q} = \frac{\alpha^2}{3\pi^3 M^2} f_\rho(T) \frac{m_\rho^4}{g^2} g^{\mu\nu} \Pi^\rho_{\mu\nu}(M, \vec{q})$$

final rate: (homogeneous fire ball)

$$\frac{dN_{e^+e^-}}{dM d\eta} = \int_0^{t_f} dt V(t) \int \frac{d^3q}{(2\pi)^3} \frac{dN_{e^+e^-}}{d^4x d^4q}(t) A(M, \vec{q})$$

30% Central Pb(158GeV/u)+Au