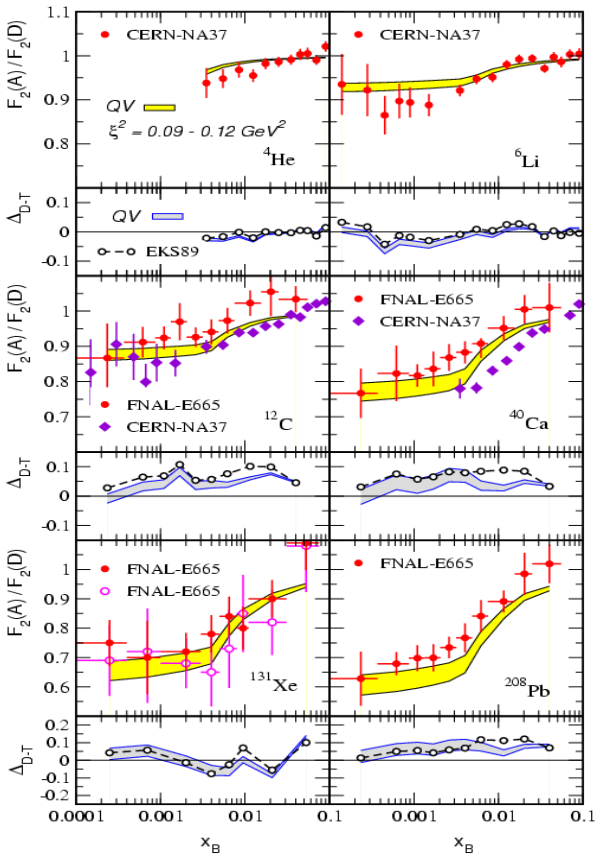
Multiple parton interactions in ultradense nuclear matter

- **Dynamical generation of parton mass in the nuclear chromo-magnetic field**

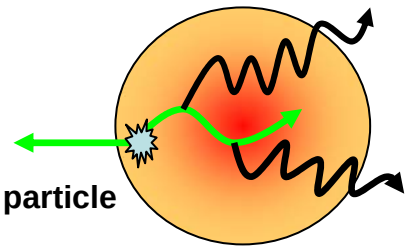
$$x_B \to x_B\left(1+\frac{\xi^2(A^{1/3}-1)}{Q^2}\right)=x_B\left(1+\frac{m_{dyn}^2}{Q^2}\right)$$



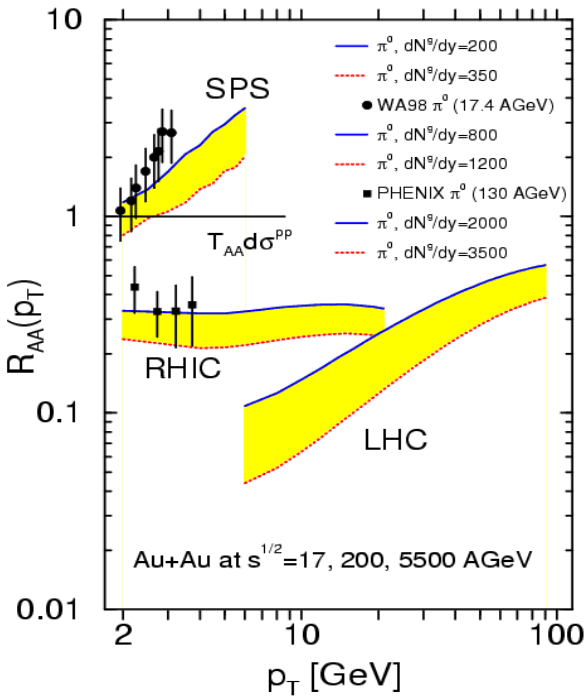
J.W.Qiu and I.Vitev,
Phys.Rev.Lett. 93 (2004)

- **Large parton energy loss in a quark-gluon plasma of extreme density**

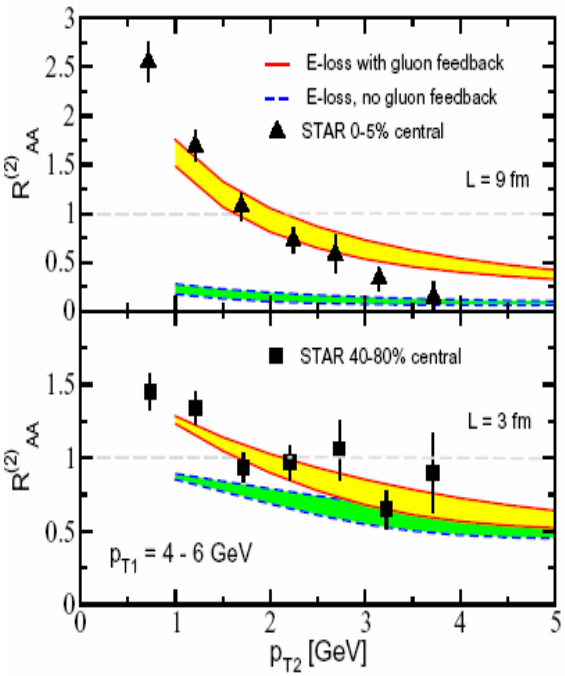
$$\Delta E \propto \alpha_s^3 \int_0^L \rho(z) z\, dz = \alpha_s^3 \rho_{plasma} L^2$$



- **Redistibution of E of a fast particle in many large angle and low energy particles**



I.Vitev and M. Gyulassy,
Phys.Rev.Lett. 89 (2002)



I.Vitev,
submitted to Phys.Rev.Lett.