

Jet Energy Loss in Relativistic Heavy-Ion Collisions with Realistic Medium Modeling

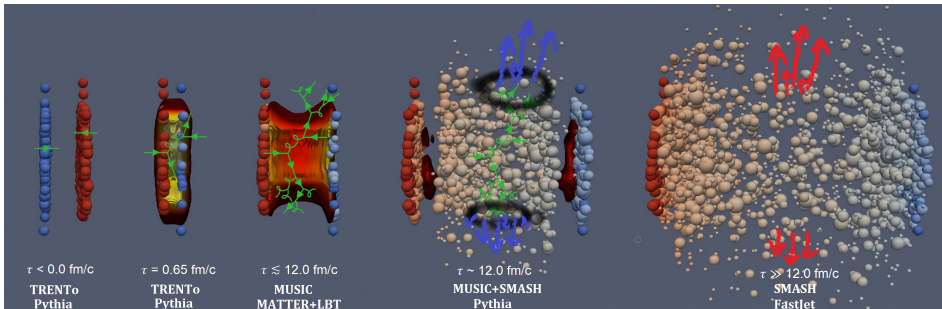
Bc. Josef Bobek

Supervisor: Iurii Karpenko, Ph.D.

FNSPE CTU



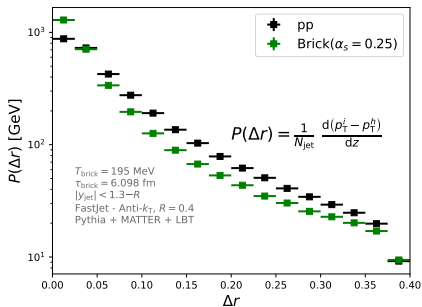
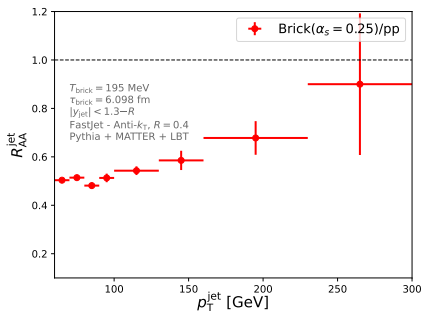
Heavy-Ion Collision



Nuclear Modification Factor R_{AA} and Jet Shape $P(\Delta r)$ for Simplified (Brick) Medium

$$R_{AA} = \frac{\frac{d^2 N_{\text{jet}}^{AA}}{dp_T dy}}{\langle T_{AA} \rangle \frac{d^2 \sigma_{\text{jet}}^{pp}}{dp_T dy}},$$

$$P(\Delta r) = \frac{1}{N_{\text{jet}}} \frac{d(p_{\text{T}}^i - p_{\text{T}}^h)}{dz}$$



Nuclear Modification Factor R_{AA} and Jet Shape $P(\Delta r)$ for Realistic Medium

$$R_{AA} = \frac{\frac{d^2 N_{\text{jet}}^{AA}}{dp_T dy}}{\langle T_{AA} \rangle \frac{d^2 \sigma_{\text{jet}}^{pp}}{dp_T dy}},$$

$$P(\Delta r) = \frac{1}{N_{\text{jet}}} \frac{d(p_T^i - p_T^h)}{dz}$$

