

Jet R_{AA} and v_2

Multivariate probes of coherence physics

$$R_{AA}(p_T, R) \simeq Q^{(0)}(p_T, R) e^{-\Omega(p_T, R)}$$

Quenching of total charge
(one parton)

Quenching of resolved sub-jets
(many partons)

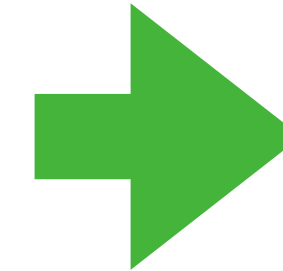
Jet R_{AA} and v_2

Multivariate probes of coherence physics

$$R_{AA}(p_T, R) \simeq Q^{(0)}(p_T, R) e^{-\Omega(p_T, R)}$$

Quenching of total charge
(one parton)

Quenching of resolved sub-jets
(many partons)



$$v_2 \simeq -\frac{e}{2} \frac{d \ln R_{AA}}{d \ln L}$$

Differential measure of jet
suppression in- and out-of-plane.

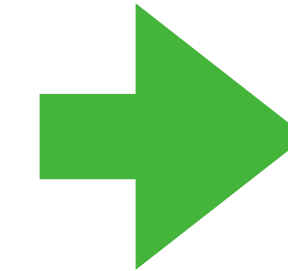
Jet R_{AA} and v_2

Multivariate probes of coherence physics

$$R_{AA}(p_T, R) \simeq Q^{(0)}(p_T, R) e^{-\Omega(p_T, R)}$$

Quenching of total charge
(one parton)

Quenching of resolved sub-jets
(many partons)



$$v_2 \simeq -\frac{e}{2} \frac{d \ln R_{AA}}{d \ln L}$$

Differential measure of jet
suppression in- and out-of-plane.

- Quenching factor $Q^{(0)}$ and resolved phase-space Ω are sensitive to medium scales:

Critical energy: ω_c

Critical angle: θ_c

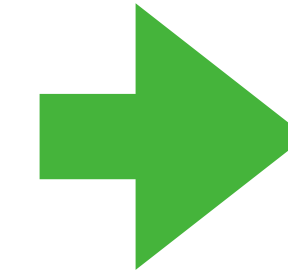
Jet R_{AA} and v_2

Multivariate probes of coherence physics

$$R_{AA}(p_T, R) \simeq Q^{(0)}(p_T, R) e^{-\Omega(p_T, R)}$$

Quenching of total charge
(one parton)

Quenching of resolved sub-jets
(many partons)



$$v_2 \simeq -\frac{e}{2} \frac{d \ln R_{AA}}{d \ln L}$$

Differential measure of jet
suppression in- and out-of-plane.

- Quenching factor $Q^{(0)}$ and resolved phase-space Ω are sensitive to medium scales:

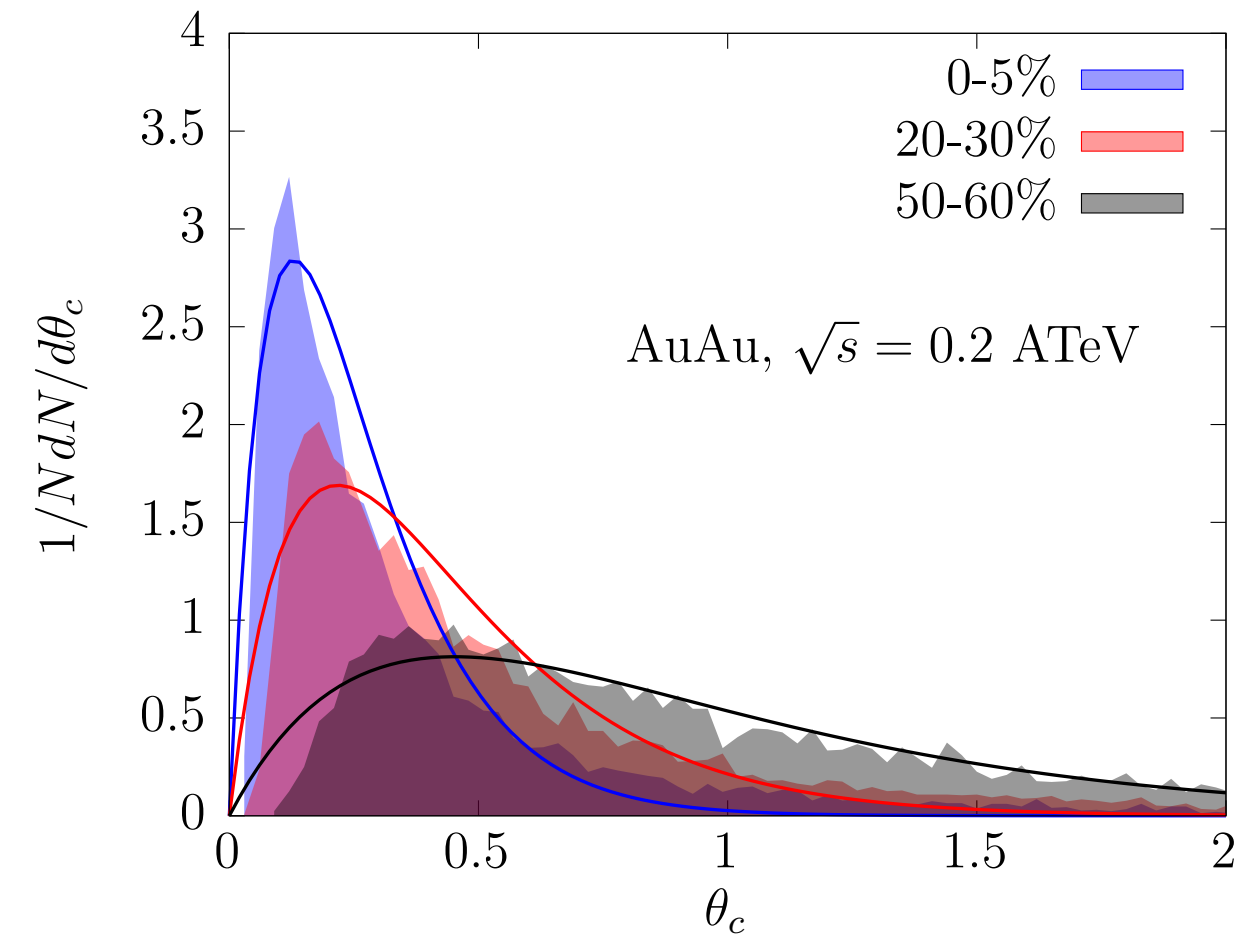
Critical energy: ω_c

Critical angle: θ_c

- What is our sensitivity to these scales?

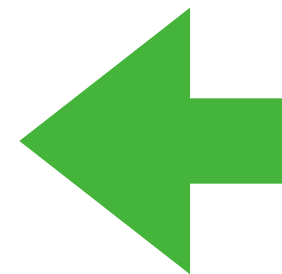
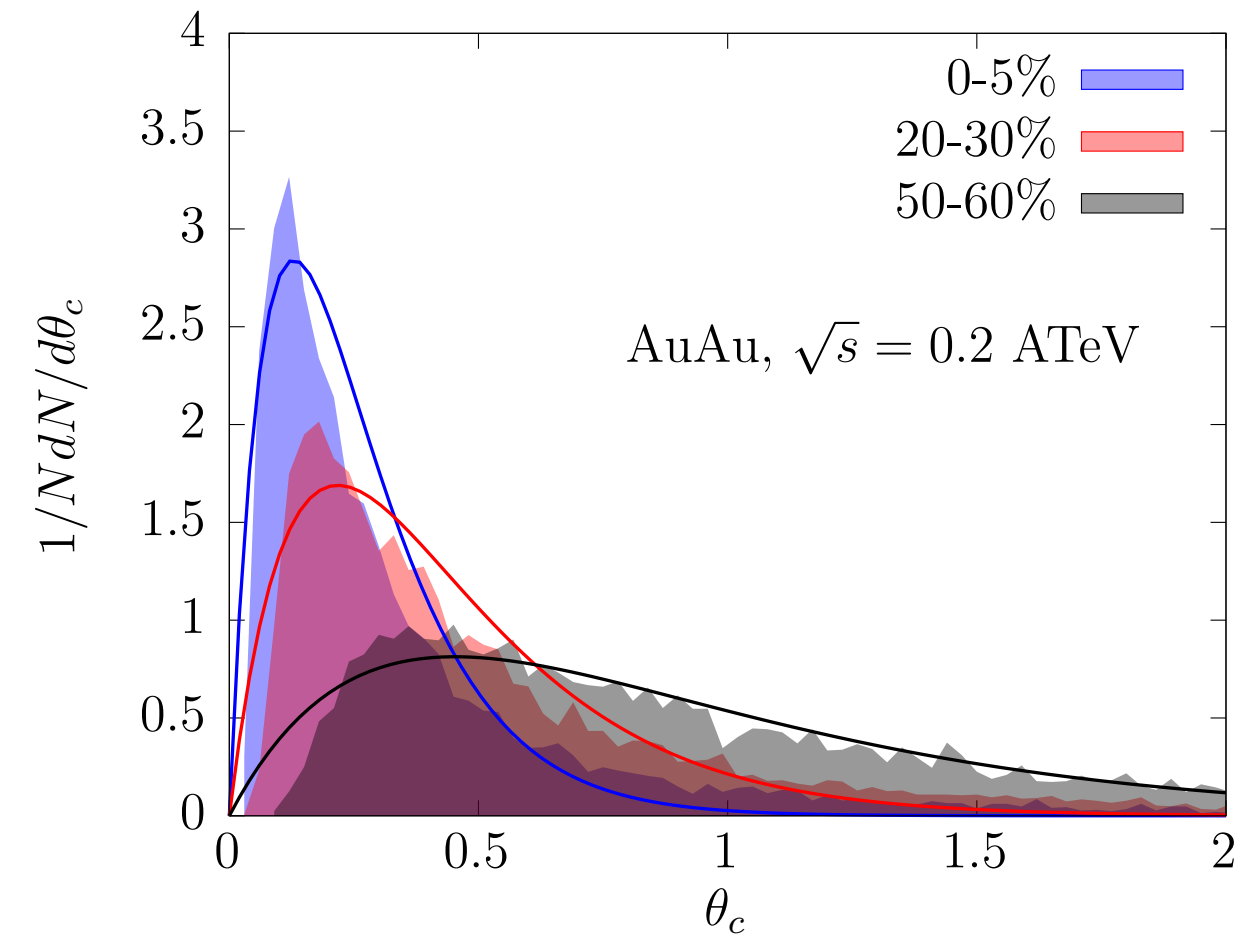
| System characteristics | Jet scales |
|-------------------------------|---------------------------|
| com. energy, centrality | Jet p_T , cone-size R |

θ_c scan using centralities

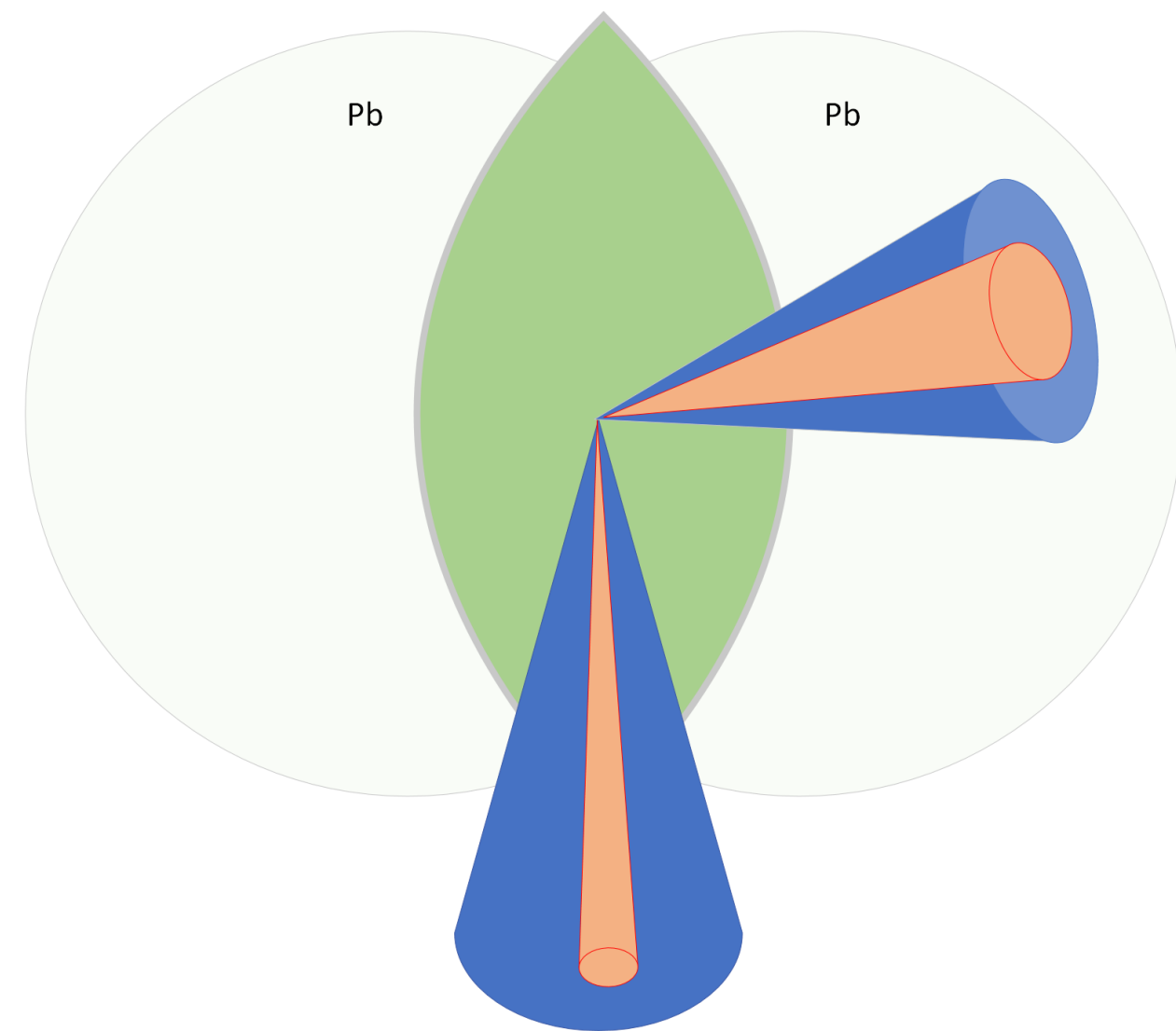


| | |
|-------------------------------|---------------------------|
| System characteristics | Jet scales |
| com. energy, centrality | Jet p_T , cone-size R |

θ_c scan using centralities

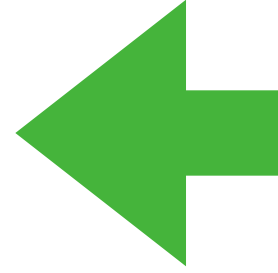
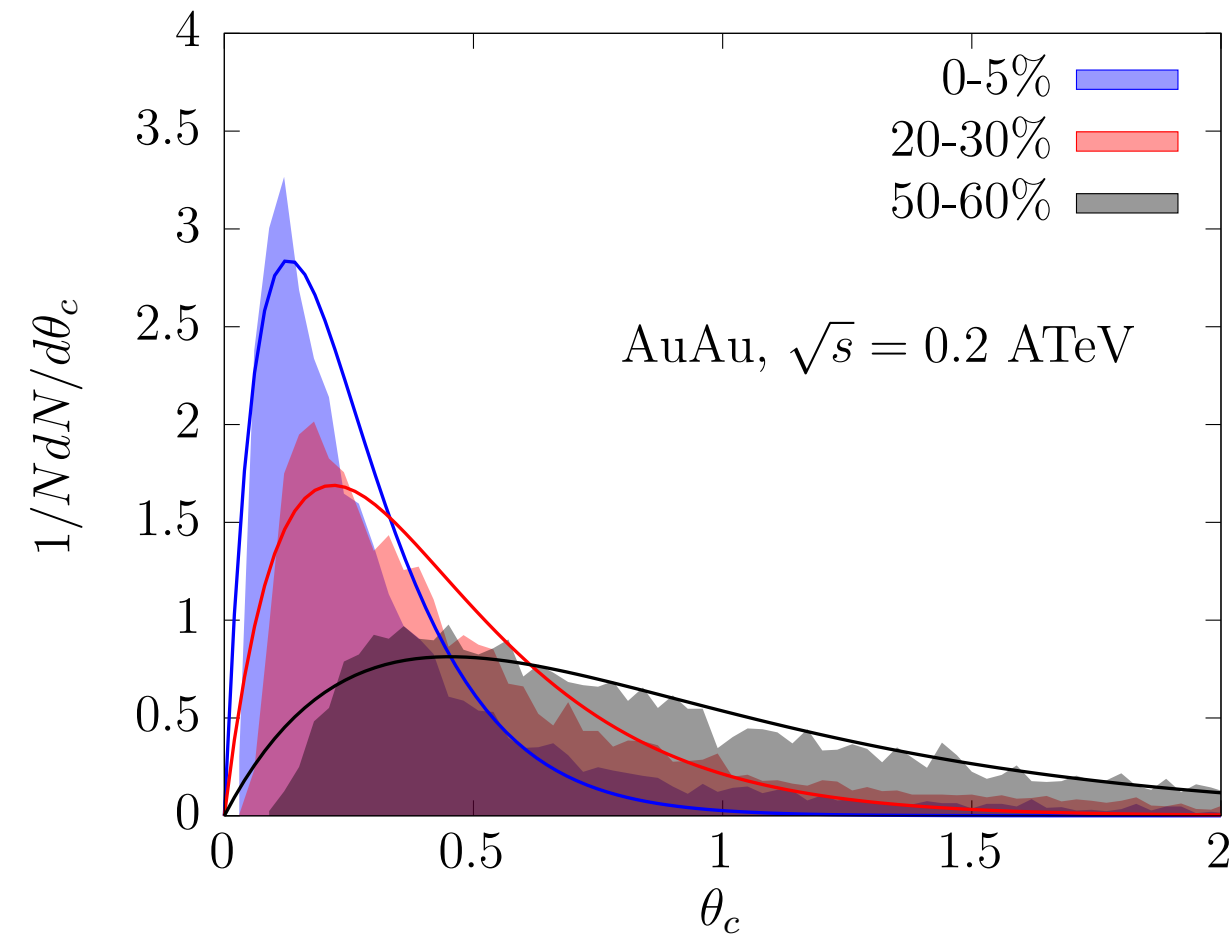


| System characteristics | Jet scales |
|-------------------------|---------------------------|
| com. energy, centrality | Jet p_T , cone-size R |

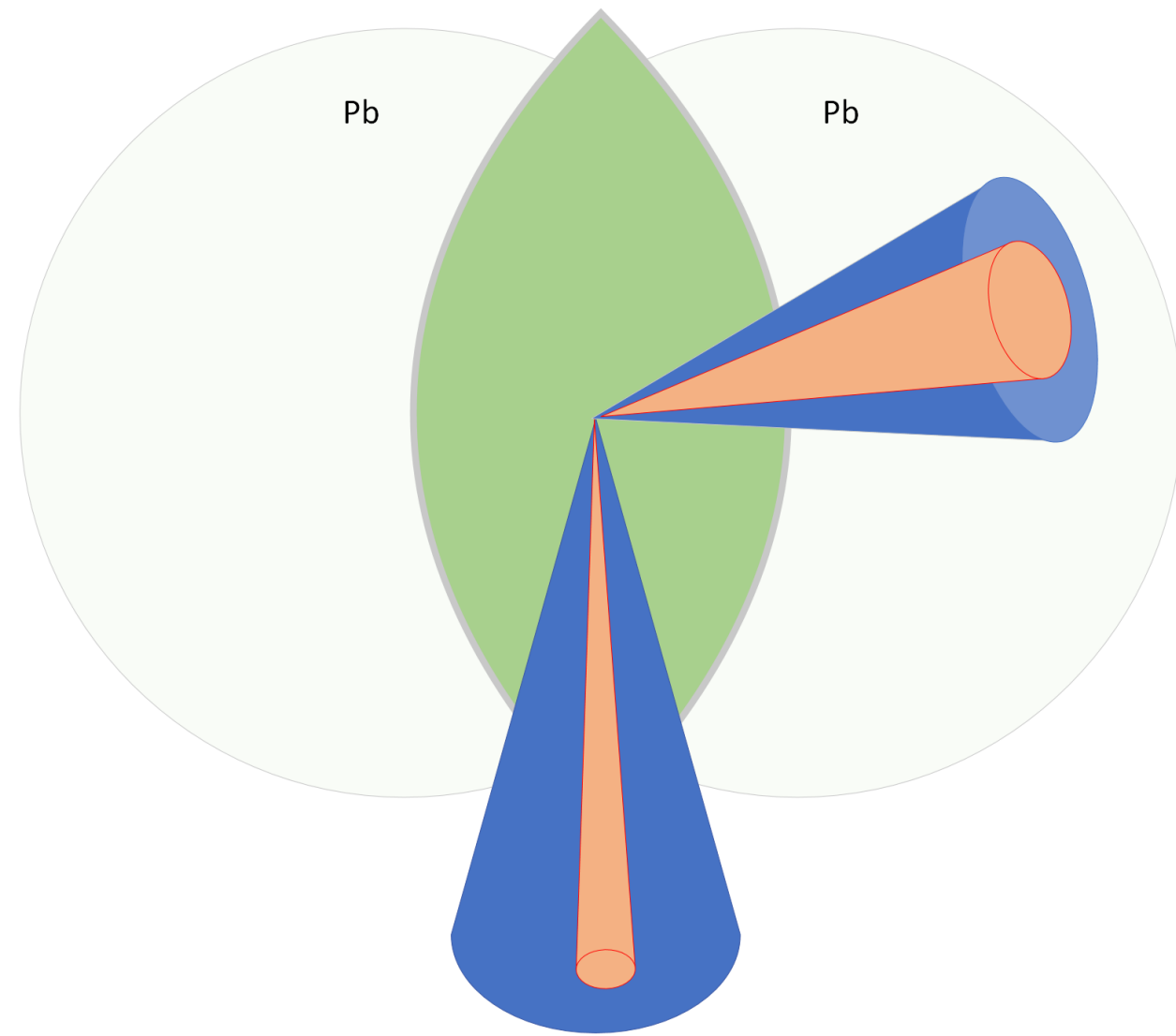


Azimuthal asymmetry as sensitive probe!

θ_c scan using centralities

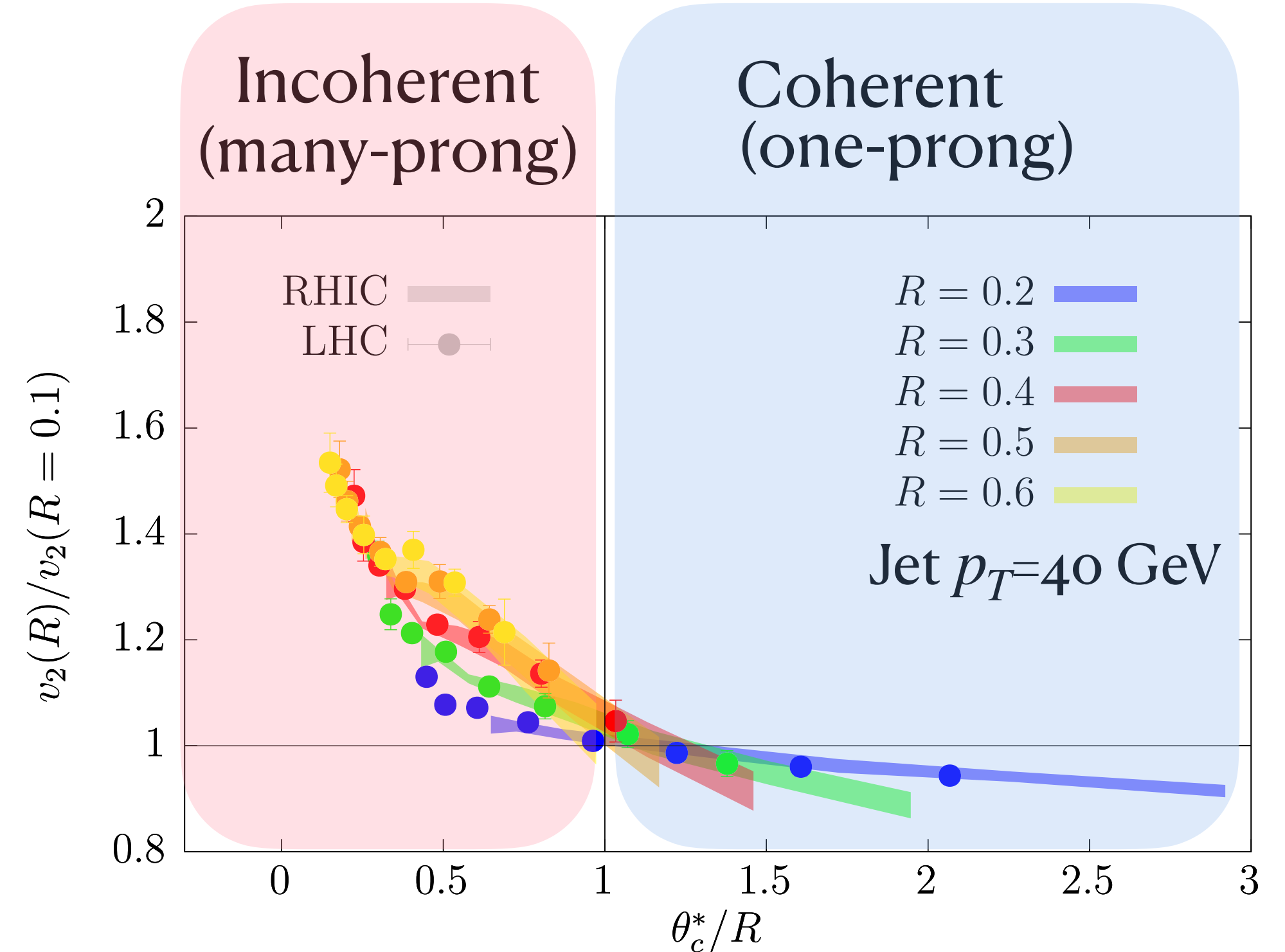


| System characteristics | Jet scales |
|-------------------------|---------------------------|
| com. energy, centrality | Jet p_T , cone-size R |



Azimuthal asymmetry as sensitive probe!

[Mehtar-Tani, Pablos, Tywoniuk arXiv:2402.xxxx]



Universal behaviour sensitive to switching scale!