Present status and prospects of high-pT and jets in proton-nucleus

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	- jet suppression, di-jet asymmetry, jet shapes, ...

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d'Enterria (2011)

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		- further complexities due to colour-talk with medium affecting hadronization

A. Beraudo, JGM, U. Wiedemann & Aurenche, Zakharov (2011)

 $R_{AA}(p_T) = \frac{(1/N_{evt}^{AA}) d^2 N_{ch}^{AA} / d\eta dp_T}{(1/N_{evt}^{PP}) d^2 N_{th}^{PP} / d\eta d\rho_T}$

 $\frac{1}{2}$ incufficient to effectively constrain planes on the end of the end of *reservery* constraint details of underlying dynamics **a high voltage membrane at active** volume volume volume volume volume volume vol *jet quenching without jets insufficient to effectively constrain*

di-jet asymmetry

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a subleading partner with *AJ <* 0.15 and ¹² *>* 2*⇥*/3 is found. Since *RB*(*AJ <* 0.15) is cal-J. Casalderrey-Solana, JGM, U. Wiedemann [jet collimation] to the shape of the tail at ¹² *<* 2 seen in Fig. 8, but can be used to measure small changes in the back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-back-to-

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Example 31 background subtraction rather non-trivial
M. Cacciari, G. Salam, G. Soyez digitat events packground superaction rather hol anced in PYTHIA is the Salam, which is plotted as a dashed as a dashed line in Fig. 11. As will be a dashed line in Fig. 11. As will be a dashed line in Fig. 11. As will be a dashed line in Fig. 11. As will be a dashed lin in the PbPb underlying event. This effect is demonstrated by the comparison of PYTHIA and PYTHIA+DATA results. The difference between the pp and PYTHIA+DATA resolutions was used

CMS

Single Jet central to peripheral ratio: Rcp Single Jet central to peripheral ratio: Rcp

•Observe: *strong jet suppression*

 ϵ is sion in R = 0.2 and R = 0.4 ϵ **il range of reported ET**

 \Rightarrow Comparable suppression in R = 0.2 and R = 0.4 **jet yields/Ncoll over full range of reported ET**

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iet quenching with jets almost no contribution to the overall momentum balance, which is a large fraction of t negative imbalance from high *p*^T is recovered in low-momentum tracks.

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-o clear jet energy loss, energy recovered in soft components at large angles, apparent no modification of fragmentation, ... (left) and outside (*R >* 0.8) the leading and subleading jet cones (right). For the solid circles, vertical bars and brackets represent the statistical and systematic uncertainties, respectively. For the individual *p*^T ranges, the statistical uncertainties are shown as vertical bars. T_{max} shows the contributions the contributions the contributions the contributions to T_{max} ⌅ father momentum balance in Soft in Soft components at large angles, the side seems of the side seems model. The \sim with large *AJ* can be restored if a third jet with *p*T *i* and *p*T *z* 20 GeV/*c*, which is present in more than $\frac{1}{2}$ 90% of these events, is included. This is in contrast to the results for large-*AJ* PbPb data, which

← many questions...

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R_{p\,A}^h(p_T,y) = \frac{d\sigma^{pA\to h+X}}{dp_T^2\,dy} / N_{\text{coll}}^{pA} \frac{d\sigma^{pp\to h+X}}{dp_T^2\,dy}
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- Fig. 7: Nuclear models are the comparisons than $\frac{1}{2}$ better than just R_{pPb} comparisons for different rapidities $\frac{1}{2}$ notice, centre-of-mass rapidities here \sim [below and Albacete later] \sim [69] compared with the same \sim [69] compared $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ $\frac{1}{2}$ |y|<0.35 10 and 0 30 \pm

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further factorization tests from rapidity scan

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