Inputs for discussion

FORMALISM:
* definition of the fragmentation regions - does large qT imply more than current fragmentation?
* which variables shall we use to describe the momentum fractions? (see Gunar's talk)
* matching schemes: how to estimate uncertainties associated to the matching prescription

PERTURBATIVE ASPECTS:
* implementation of evolution (transverse momentum, threshold resummation, zeta prescription, …?)
* fixed-order calculations in SIDIS : is it sufficient to describe data at higher qT ? Or do we need power corrections/higher twist ?

NONPERTURBATIVE ASPECTS:
* functional form at low transverse momentum
* its kinematic dependence
* its flavor dependence
* nonperturbative contribution to TMD evolution

DATA :
* impact of the new release of Compass data
* A Fixed Target Experiment at the LHC ?
* what can be done with the forthcoming e+e- data concerning TMD FFs (also including matching to high qT)
* how well does the fixed order describes data at large transverse momentum
* …

Summary: scales and factorization

- Factorization depends on relevant hierarchy:

$$\frac{d\sigma_h}{dp_T\, d\eta\, d^2\mathbf{k}\, dz_h} = \underbrace{\hat{\sigma}(p_T,\eta)}_{\text{partonic xsec}} \otimes \underbrace{B(p_T R)}_{\text{jet boundary}} \otimes \underbrace{C(\mathbf{k})}_{\text{TMD fragmentation } D(\mathbf{k})} \otimes D(\Lambda_{\rm QCD})$$

fat jet $\bar{\sigma}(p_T,\eta)$

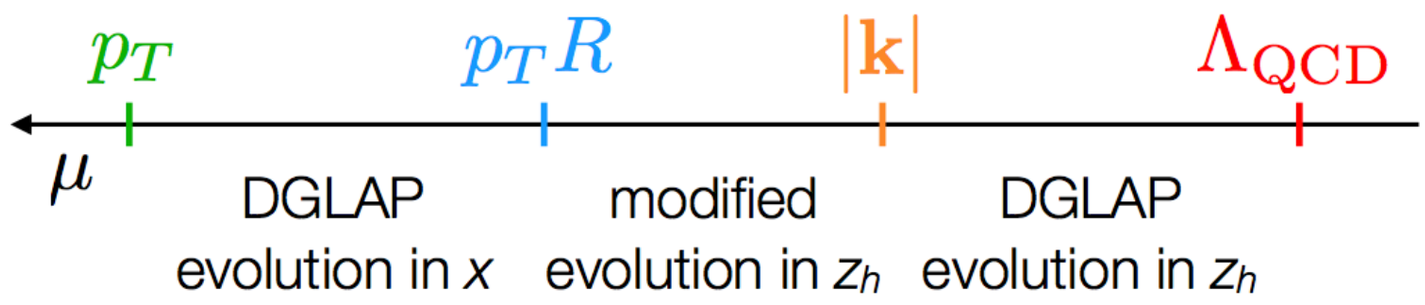
$\mathcal{J}(p_T R,\mathbf{k})$

fragmenting jet function $\mathcal{G}(p_T R,\mathbf{k})$

- Fragmentation scales: transverse momentum $|\mathbf{k}|$ and $\Lambda_{\rm QCD}$
- Jet scales: transverse momentum p_T and radius R

Evolution and resummation

- Single logarithms resummed by renormalization group evolution



- $\mathcal{G}_{i\to h}(x, p_T R, \mathbf{k}, z_h, \mu)$ has standard DGLAP evolution in x
- $D_{i\to h}(z_h, \mu)$ satisfies DGLAP evolution in z_h
- $D_{i\to h}(\mathbf{k}, z_h, \mu)$ has modified **all-orders** evolution equation:

$$\mu\frac{d}{d\mu}D_{i\to h}(\mathbf{k}, z_h, \mu) = \sum_j \int \frac{dz}{z}\,\theta\left(z-\frac{1}{2}\right)P_{ji}(z,\mu)D_{j\to h}\left(\mathbf{k}, \frac{z_h}{z}, \mu\right)$$