Electron Ion Collider Phenomenology

-Jet physics
-EEC, TEEC

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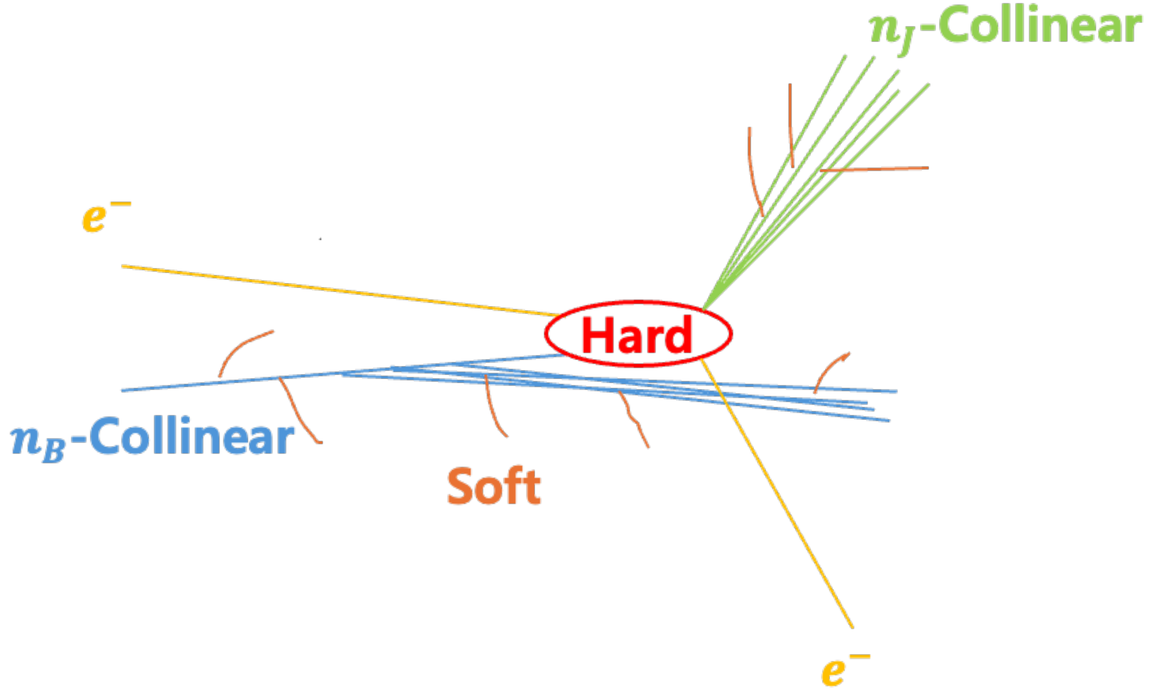
-Jet Physics

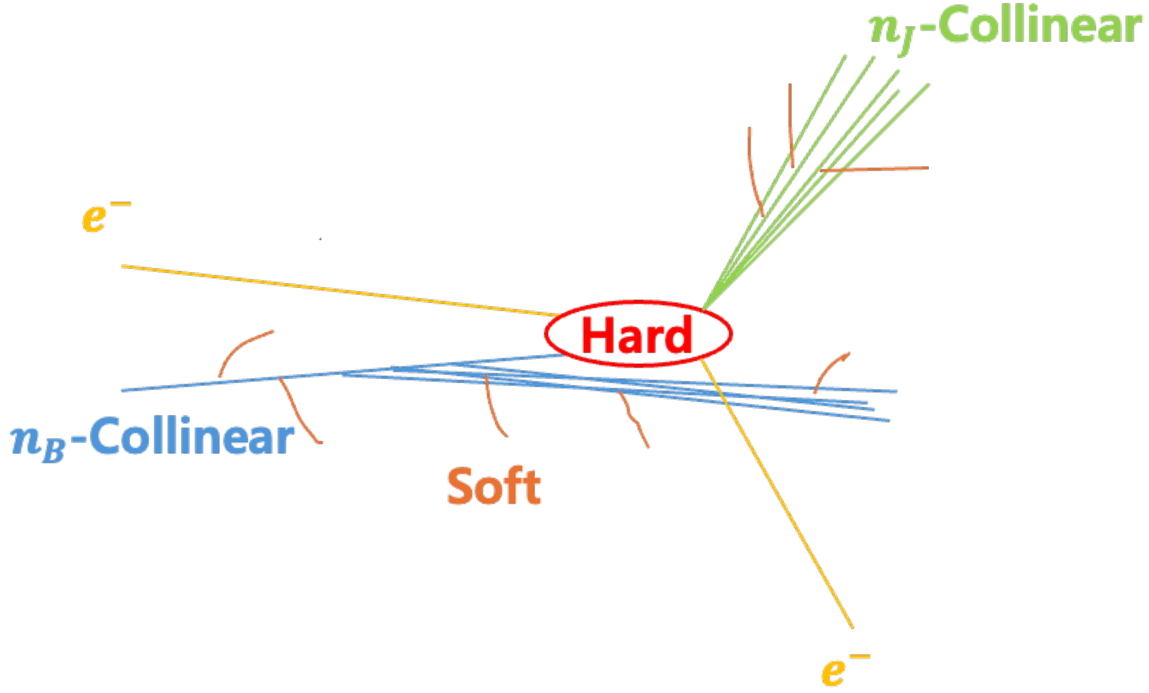


-Large Logarithm
(eg. $\log(Q_H/M_q), \log(Q_H/\tau)$)

-Factorization (eg. SCET)

Modes	Power Counting
Collinear	$P_C = (\bar{n}\cdot p, p_\perp, n\cdot p)$ $\simeq Q(1,\lambda,\lambda^2)$
Soft	$P_S = (\bar{n}\cdot p, p_\perp, n\cdot p)$ $\simeq Q(\lambda^2,\lambda^2,\lambda^2)$

-Jet Physics



$\sigma = H \otimes B \otimes J \otimes L$

-Beam function, PDF etc..

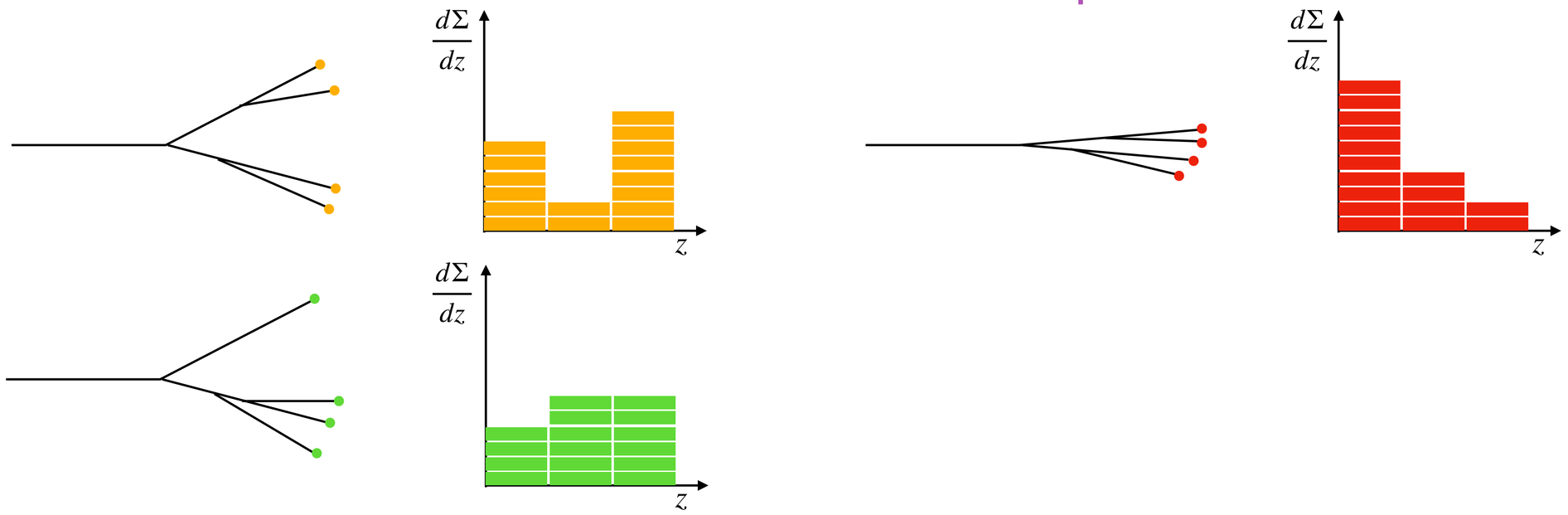
-Jet function, FJF, FF etc..

-EEC

$$\frac{d\Sigma}{dz} = \sum_{i,j} \int d\sigma \frac{E_i E_j}{Q^2} \delta(z - z_{ij})$$

Soft contribution is suppressed.

EEC shows the detail of the shape.



-TEEC

$$\frac{d\Sigma_T}{dz} = \sum_{i,j} \int d\sigma \frac{P_{i,T} P_{j,T}}{Q^2} \delta(z - z_{ij})$$

Soft contribution is suppressed.

TEEC shows the detail of the shape.