

$$\mathcal{M}_3 =$$

Diagram illustrating a three-body process (labeled  $\mathcal{M}_3$ ) involving momenta and fractions:

- Initial state (left):  $P^+, P_\perp$  (incoming line) and  $x_1^+$  (fraction).
- Intermediate state (middle):  $q$  (gluon line) and  $x_2^+$  (fraction).
- Final state (right):  $p_1^+, p_{1\perp}$  (gluon line),  $p_2^+, p_{2\perp}$  (gluon line), and  $p_f^+, p_{f\perp}$  (quark line).