

$$\underbrace{\left(\underbrace{q_e^5 q_n^3}_{\text{yellow}} + \underbrace{\text{diagram}}_{\text{blue}} \right)}_{\text{underlined}} \times \left(\text{diagram} \right)^+ + \underbrace{\text{diagram}}_{\text{yellow}} \times \left(\text{diagram} \right)^+$$

- BY/Ph:
- 1γ*
 - 2γ* FSR
 - 2γ* ISR

together with

$$+ \underbrace{\text{diagram} \times \left(\text{diagram} \right)^+}_{\text{underlined}}$$

$$\underbrace{\left(\underbrace{\text{diagram}}_{\text{green}} + \underbrace{\text{diagram}}_{\text{yellow}} \right)}_{\text{underlined}} \times \left(\text{diagram} \right)^+ + \left(\underbrace{\text{diagram}}_{\text{blue}} + \underbrace{\text{diagram}}_{\text{yellow}} \right) \times \left(\text{diagram} \right)^+$$

together with

$$\underbrace{\text{diagram} \times \left(\text{diagram} \right)^+ + \text{diagram} \times \left(\text{diagram} \right)^+}_{\text{underlined}}$$

~~currently in McHule~~

$$\underbrace{\left(\underbrace{\text{diagram}}_{\text{green}} + \underbrace{\text{diagram}}_{\text{yellow}} \right)}_{\text{underlined}} \times \left(\text{diagram} \right)^+ + \underbrace{\text{diagram}}_{\text{yellow}} \times \left(\text{diagram} \right)^+$$

together with

$$\underbrace{\text{diagram} \times \left(\text{diagram} \right)^+}_{\text{underlined}}$$

~~McHule could run SQED~~

'blob' theory : an attempt to split pieces that should not be split according to IR cancellation

$$\underbrace{g_e^+ g_a^+}_{\text{green}} \left(\underbrace{\text{Diagram 1}}_{\text{yellow}} + \underbrace{\text{Diagram 2}}_{\text{green}} \right) \times \left(\text{Diagram 3} \right)^+ + \left(\underbrace{\text{Diagram 4}}_{\text{yellow}} + \underbrace{\text{Diagram 5}}_{\text{blue}} \right) \times \left(\text{Diagram 6} \right)^+$$

together with

$$\text{Diagram 7} \times \left(\text{Diagram 8} \right)^+ + \text{Diagram 9} \times \left(\text{Diagram 10} \right)^+$$

↓ soft photon

$$\underbrace{\text{Diagram 11}}_{\text{green}} \times \left(\text{Diagram 12} \right)^+$$

$$\underbrace{\text{Diagram 13}}_{\text{yellow}} \times \left(\text{Diagram 14} \right)^+$$

$$\underbrace{\text{Diagram 15}}_{\text{blue}} \times \left(\text{Diagram 16} \right)^+$$

$$\underbrace{\text{Diagram 17}}_{\text{yellow}} \times \left(\text{Diagram 18} \right)^+$$

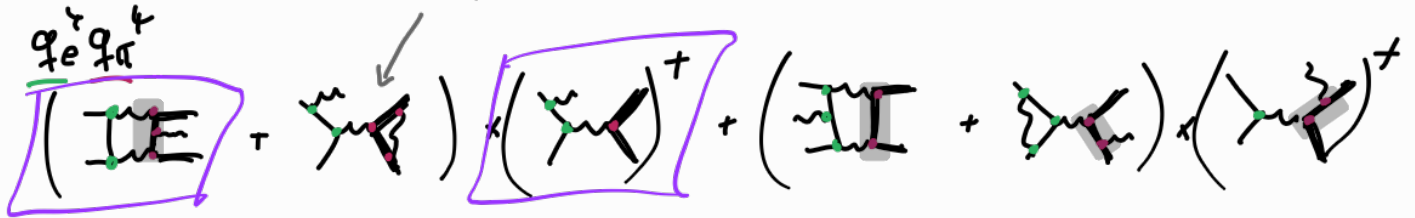
$$\underbrace{\text{Diagram 19}}_{\text{yellow}} \times \left(\text{Diagram 20} \right)^+$$

∇ diagrams talk to each other!

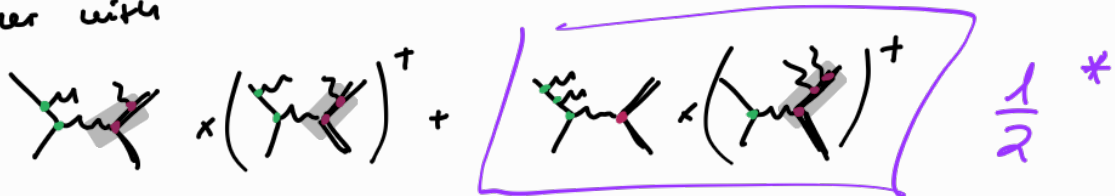
⇒ hadronic power counting : blob = $\sim \gamma$ Compton tensor

∃! blob per squared amplitude & as many FF

← rad. correction to Compton tensor ⇒ we don't do



together with



blob contribution

* requires modification of normal IR cancellation by factor 1/2 but not forcing specific photons to be hard/soft