

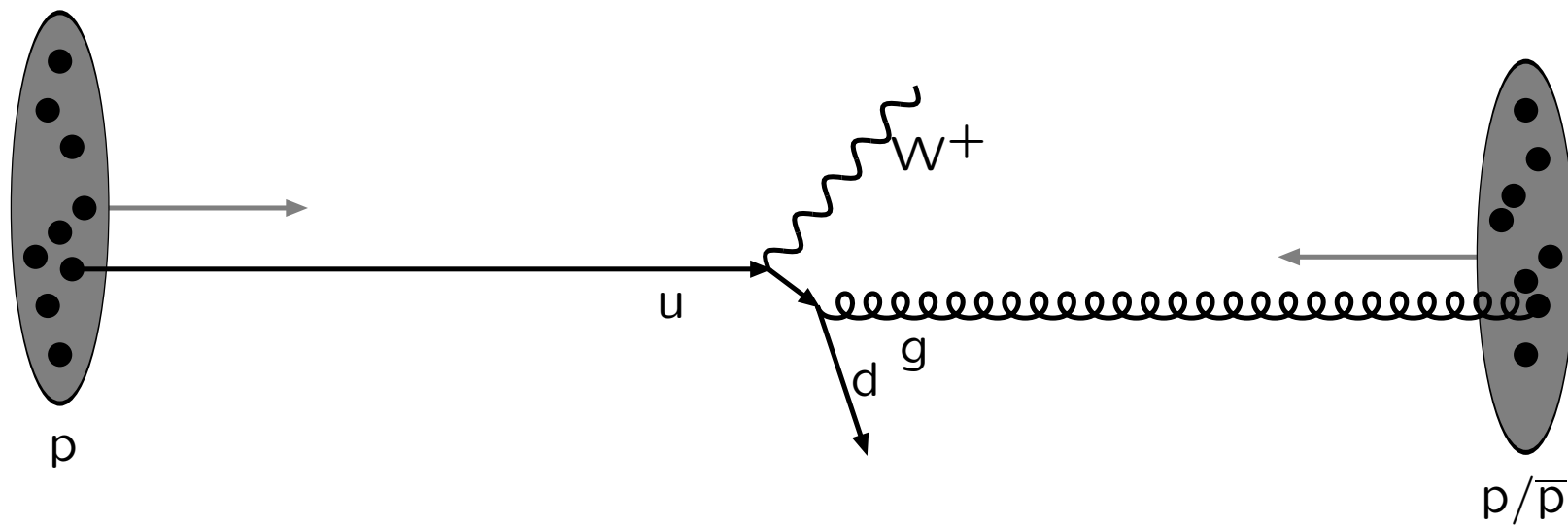
The structure of an event

Warning: schematic only, everything simplified, nothing to scale, ...

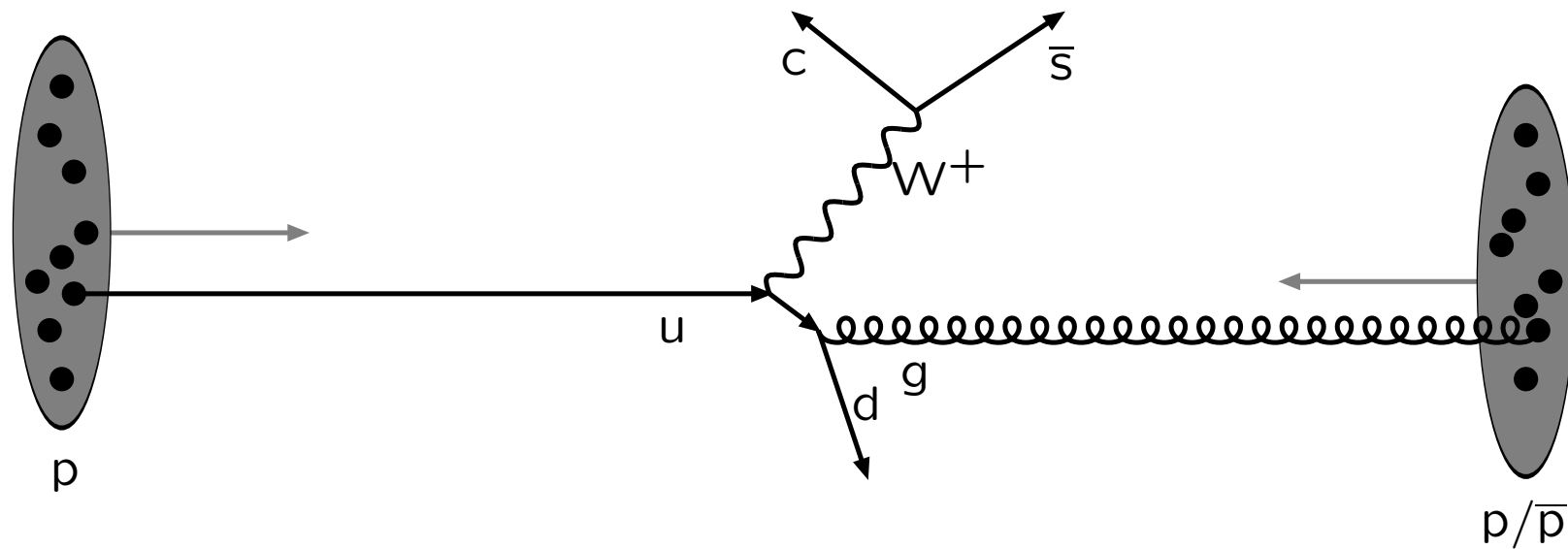


Incoming beams: parton densities

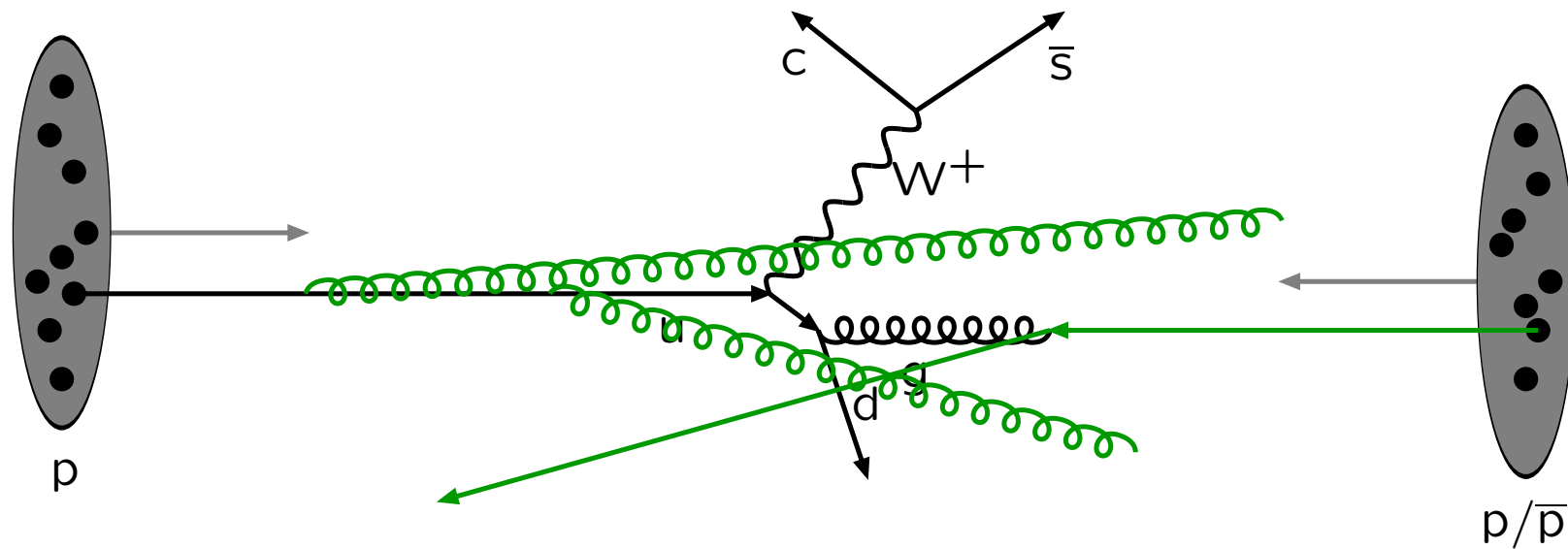
Credits to T. Sjostrand



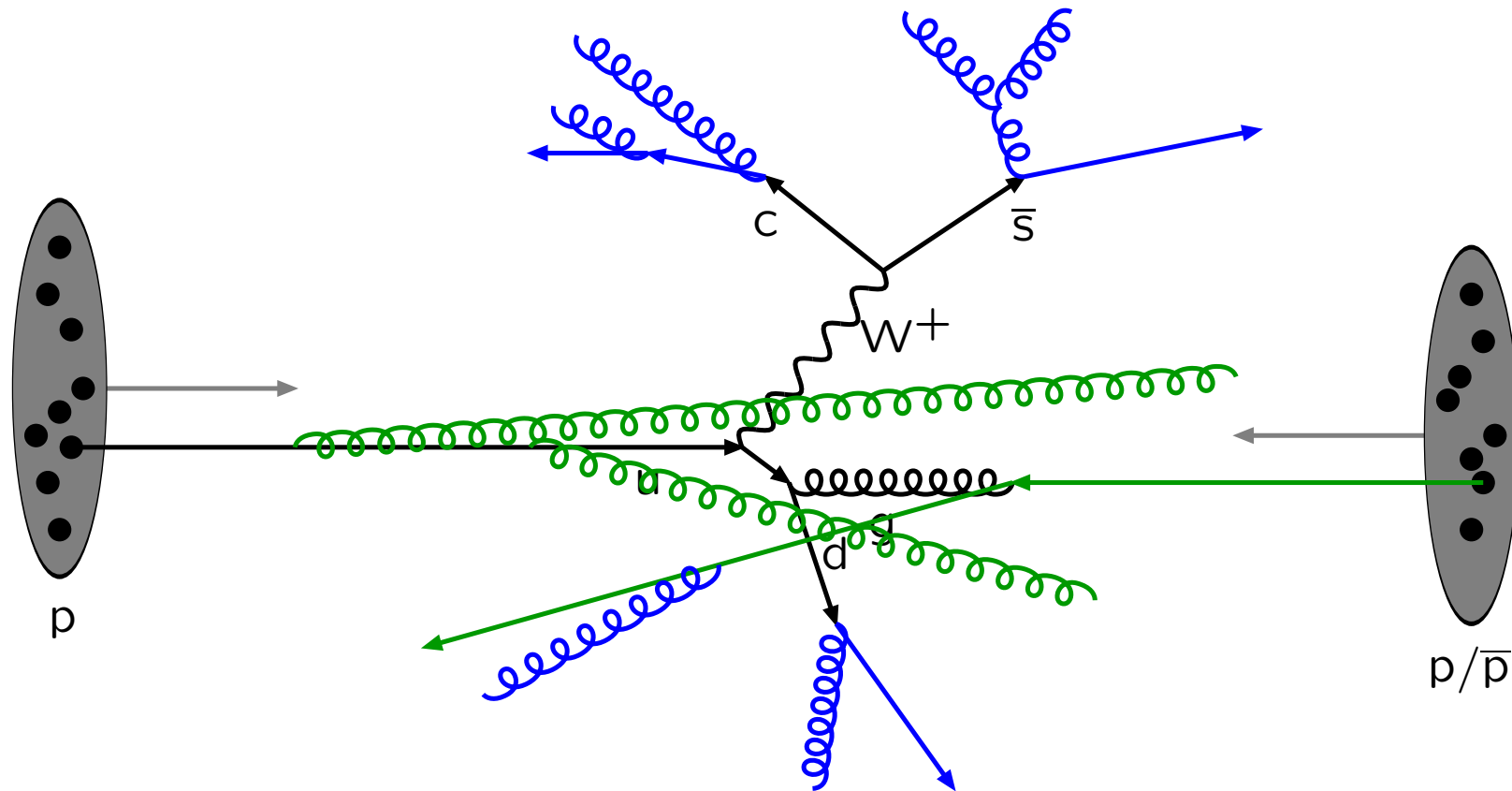
Hard subprocess: described by matrix elements



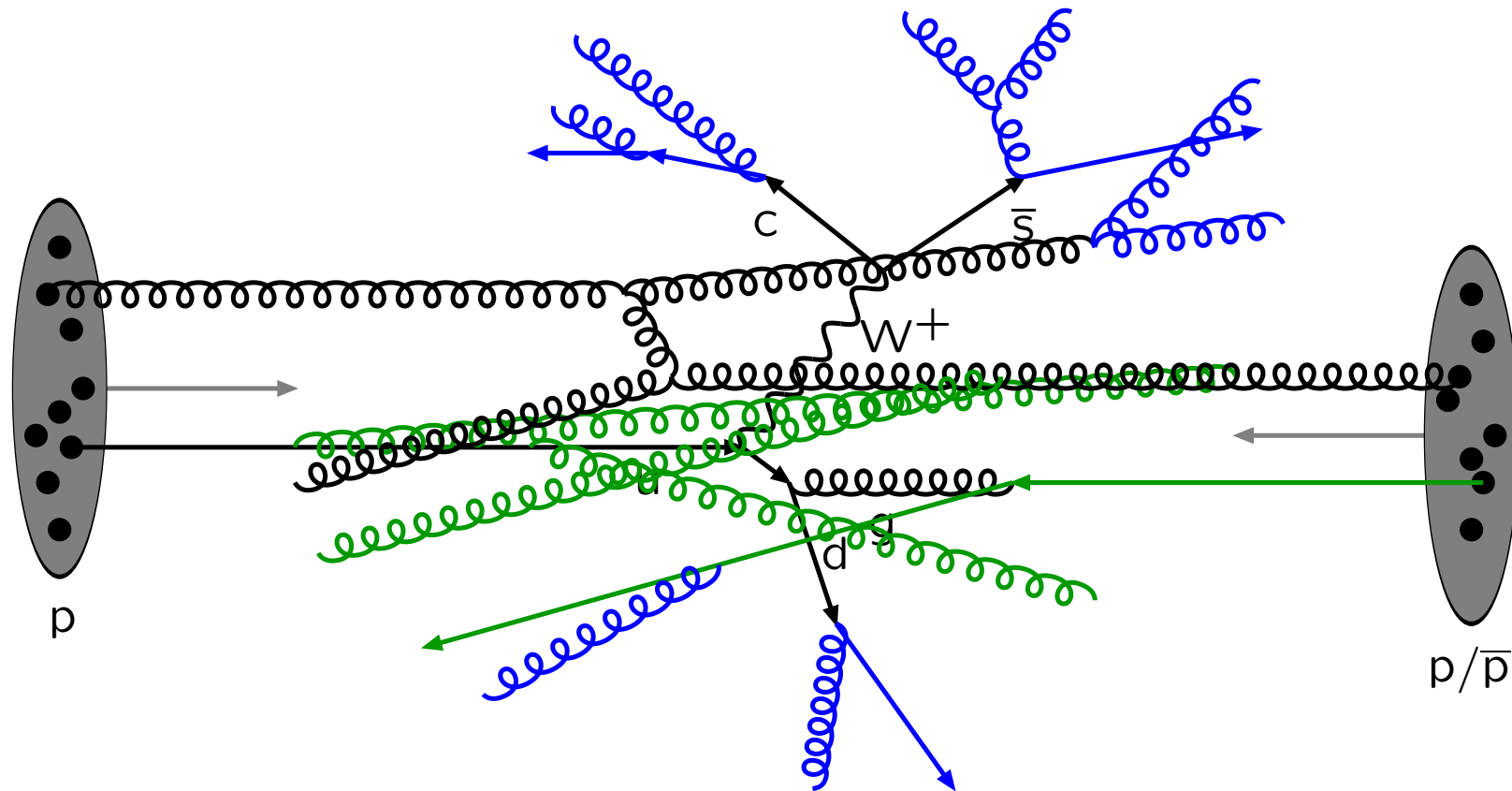
Resonance decays: correlated with hard subprocess



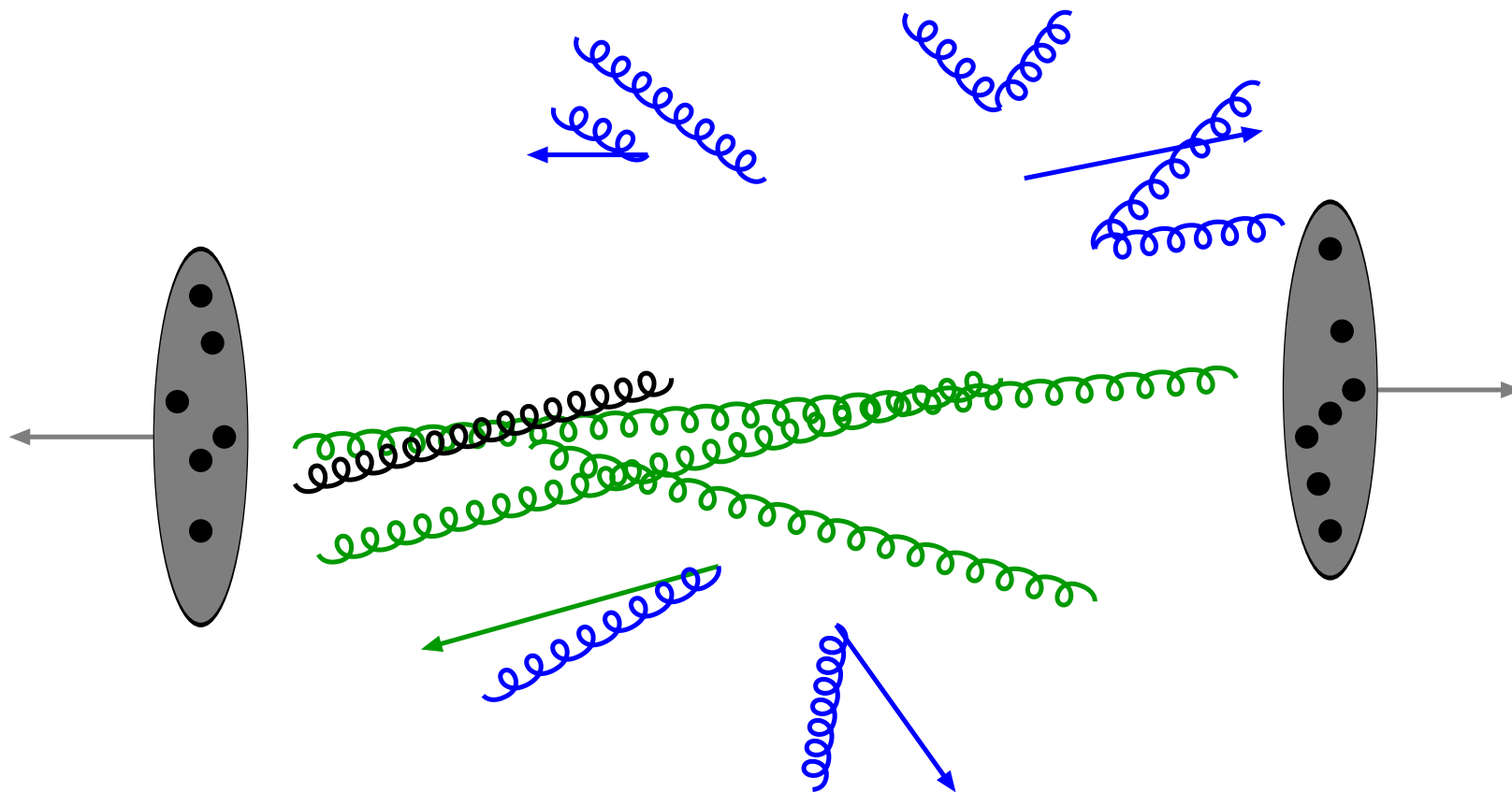
Initial-state radiation: spacelike parton showers



Final-state radiation: timelike parton showers



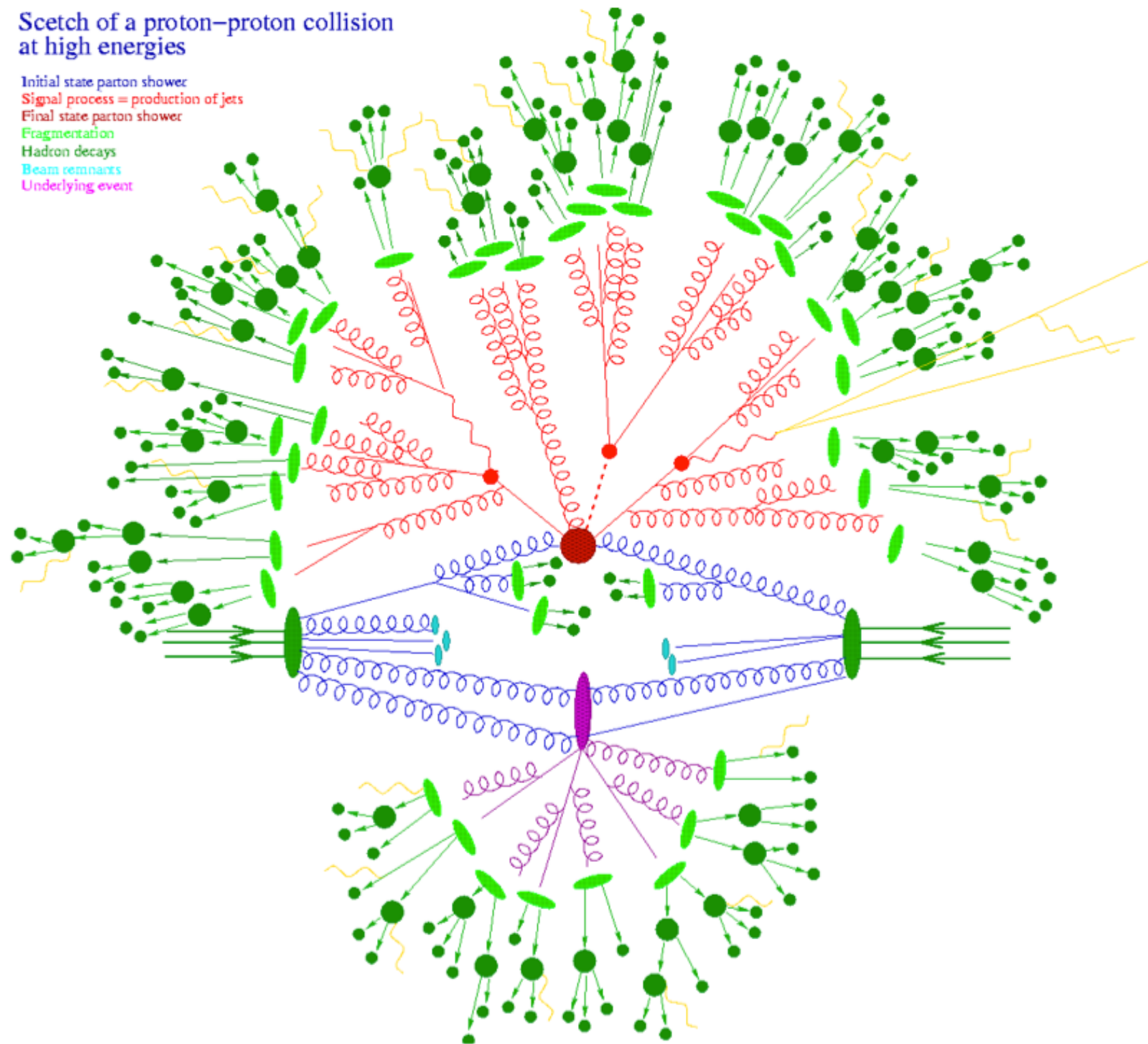
... with its **initial**- and **final**-state radiation



Beam remnants and other outgoing partons

Sketch of a proton-proton collision at high energies

Initial state parton shower
Signal process = production of jets
Final state parton shower
Fragmentation
Hadron decays
Beam remnants
Underlying event



proton - (anti)proton cross sections

