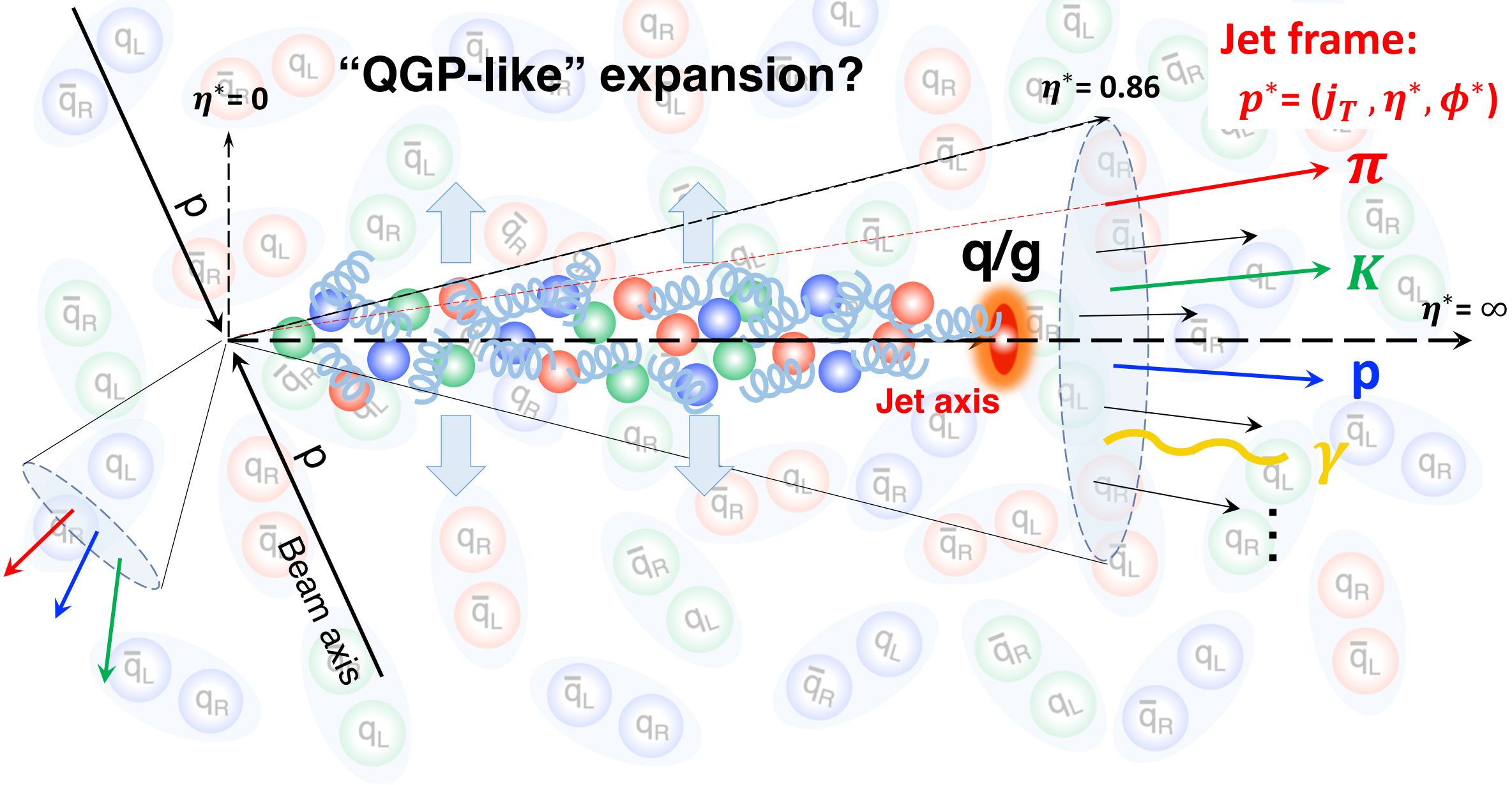Dynamics of a "single-parton" in the vacuum