

- Compare invariant mass in the instant-form in the hadron center-of-mass system $\mathbf{P} = 0$,

$$M_{q\bar{q}}^2 = 4 m_q^2 + 4\mathbf{p}^2$$

with the invariant mass in the front-form in the constituent rest frame, $\mathbf{k}_q + \mathbf{k}_{\bar{q}} = 0$

$$M_{q\bar{q}}^2 = \frac{\mathbf{k}_{\perp}^2 + m_q^2}{x(1-x)}$$

obtain

$$U = V^2 + 2\sqrt{\mathbf{p}^2 + m_q^2} V + 2V\sqrt{\mathbf{p}^2 + m_q^2}$$

where $\mathbf{p}_{\perp}^2 = \frac{\mathbf{k}_{\perp}^2}{4x(1-x)}$, $p_3 = \frac{m_q(x-1/2)}{\sqrt{x(1-x)}}$, and V is the effective potential in the instant-form

- For small quark masses a linear instant-form potential V implies a harmonic front-form potential U and thus linear Regge trajectories

[A. P. Trawiński, S. D. Glazek, S. J. Brodsky, GdT, H. G. Dosch, arXiv: 1403.5651]