String model of hadrons

Linear potential is equivalent to flux tube

Meson \[ \frac{e}{\pi} \overrightarrow{q} \] String

Baryon

Excited states: Vibrations of the string

Experimentally \[ f = 2 \text{ m}^{-1} \]

What is the potential between quarks to obtain this dependence?

\[ V(r) = \frac{e^2}{4\pi\varepsilon_0 r} \]

\[ P_i = \frac{E_i}{c} \]

\[ L = p_i \cdot r = \frac{E r}{2 \varepsilon_0} \]

\[ F = -\nabla V(r) = \frac{m v^2}{(\varepsilon_0 c)^2} - \frac{E}{r} \]

\[ f = \lambda = \frac{E}{m} = \frac{E r}{2 \varepsilon_0 c^2} \]

\[ = \frac{1}{2 \varepsilon_0 c^2} \]