

$$\hat{p}^2 \Psi + m^2 c^4 \Psi = \hat{E}^2 \Psi$$

$\int \Psi^* \Psi dx$  isn't constant

$$D = i \Psi^* \frac{\partial \Psi}{\partial t} - i \Psi \frac{\partial \Psi^*}{\partial t}$$

$$\frac{dD}{dt} = 0 \quad D < 0 \text{ possible} \\ \rightarrow E < 0$$

$$P \quad \frac{2}{3} u \quad u^{+\frac{2}{3}} \\ \frac{2}{3} u \quad d^{-\frac{1}{3}} \quad n \quad -\frac{1}{3} d \quad d^{-\frac{1}{3}} \\ +1 \quad 0$$

Baryon: 3 quarks

Meson: 1 q, 1  $\bar{q}$

$$\pi^+ \quad u \bar{d} \quad (\frac{2}{3} + \frac{1}{3})$$

$$\pi^- \quad \bar{u} d \quad (-\frac{2}{3} - \frac{1}{3})$$

$$\pi^0 \quad u \bar{u} + d \bar{d}$$



POP!

