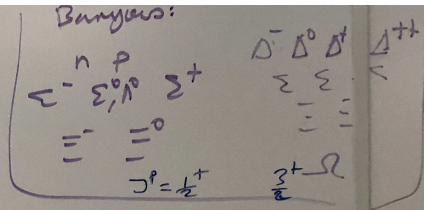
~~Tu, 11/20~~ → Mo, 11/19, 11^oo a.m. Room?

Tu, 11/13 : Dr. Weinstein

Th, 11/15 : Dr. HaHawy

Baryons:



Summary:

Pseudoscalar Octet + Singlet

$\pi^+, \pi^0, \pi^-; \eta^0; K^+, K^0, \bar{K}^0, K^-$ η'

$[D, \eta_c; B, \eta_B]$

Vector Octet + Singlet

$\rho^+, \rho^0, \rho^-; \omega; K^{*+}, K^{*0}, \bar{K}^{*0}, K^{*-}$ $\phi \approx s\bar{s}$

$[D^*, \psi'/J/\psi, \Upsilon, B^*]$

Scalars $J^{P(C)} = 0^{*+}$: $f_0(\sigma)$

$J^{P(C)} = 0^{-(+)}$

$C:|u\rangle = -|\bar{u}\rangle$

$C:|d\rangle = -|\bar{d}\rangle$

$\pi^0 : \frac{1}{2}[(u\uparrow\bar{u}\downarrow - u\downarrow\bar{u}\uparrow) - (d\uparrow\bar{d}\downarrow - d\downarrow\bar{d}\uparrow)]$

$J^{P(C)} = 1^{-(-)}$

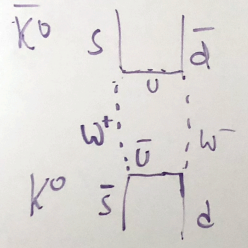
→ tetraquarks

→ quad-gluon hybrids

1^{-+} × Exotics

Regge

K^0 systems:



$\frac{1}{\sqrt{2}}(K^0 + \bar{K}^0)_S$ (P=1)

~ K_L (P=-1)

Reactions: Strong Force

$p + n \longrightarrow \Sigma^+ + K^0$

$\bar{K}^0 + p \longrightarrow$ something? Σ^+

$K^0 + p \not\longrightarrow$

$\eta \to 3\pi$, $\rho \to 2\pi$

$\omega \to 2\pi$ ~~2π~~ 3π

$\Delta^{++} \to p + \pi^+ \Rightarrow L \geq 1$

$\Delta^+ \to p + \pi^0$ 3x more probable

$n + \pi^+$

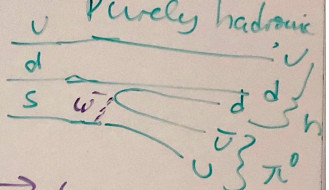
Weak IA?

$\Lambda^0 \to$?

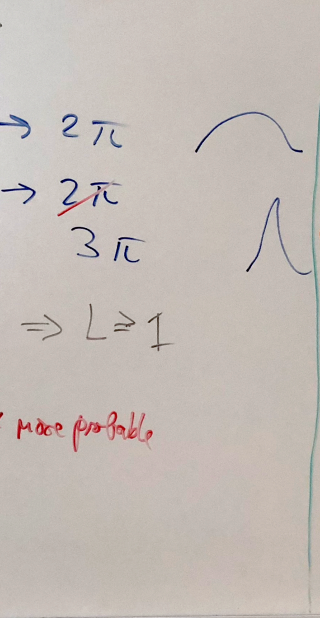
$u \leftrightarrows d$

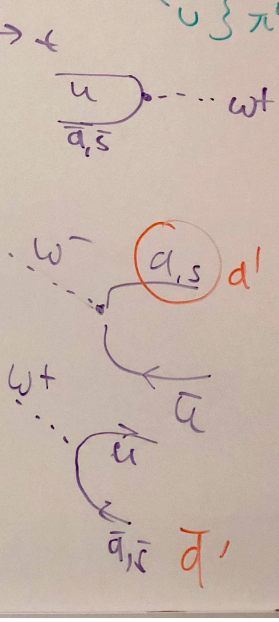
$u \leftrightarrows s$

How $p + p \to d$ in sun?

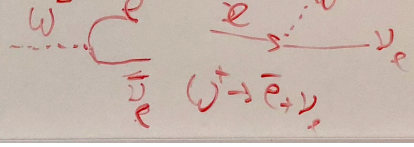


WIA: quark level





Leptonic



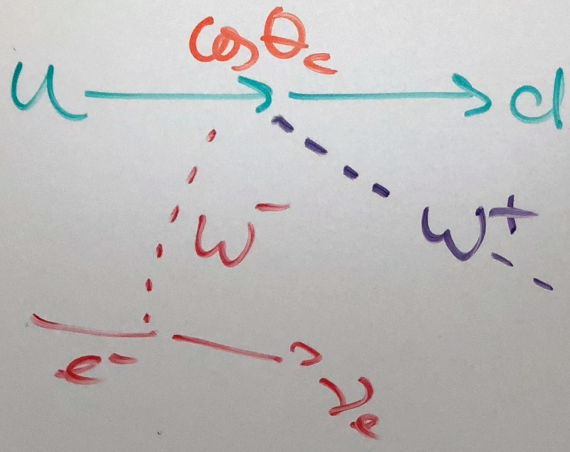
?

$p + p \rightarrow d + e^+ + \nu_e$

uud uud

uud
ddu

Underlying WIA:



pep process

pp process