REPORT OF WORKING GROUP

ON QCD CONSTRAINTS

- χ-SYMMETRY
- LARGE-N_c (Q.M.)
- Lattice

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WHY WE CAN'T CALCULATE

QCD

$\frac{\Lambda^2_{QCD}}{Q^2} + O\left(\frac{1}{Q^4}\right)$

$Q \sim \Lambda_{QCD}$

THEORIST FLOW !!

χ-PT

$\frac{Q^2}{\Lambda^2_{QCD}} + O(Q^4)$

$Q \sim \Lambda_{QCD}$ No "theory" !!

And yet clearly there is REGULARITY !

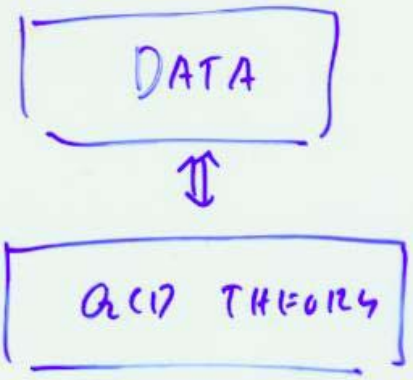
"STATIC" PROPERTIES UNDER DEVELOPMENT:

LARGE - N_c

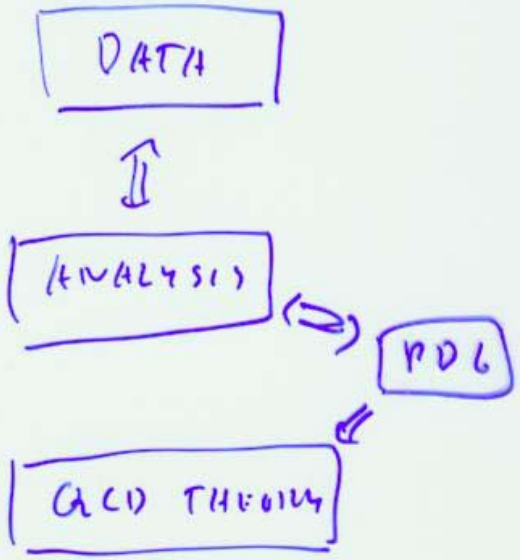
LATTICE QCD

EXISTENTIAL ANGST

PERFECT WORLD SCENARIO



OUR WORLD

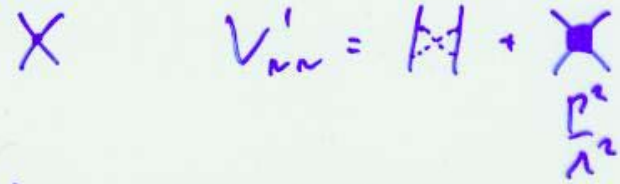


ROLE OF QCD CONSTRAINTS ??

PERFECT WORLD SCENARIO:

UNITARIZED χ-PT ?!

ANALOGY: NN SCATTERING

V^0_{NN} =  V^1_{NN} = 

$$\int^0(p,\Lambda) - \int^0(p,\Lambda') = \mathcal{O}\left(\frac{p^2}{\Lambda^2}\right)$$

πN Scattering ?!

$A \sim$ 

$\frac{1}{F_\pi^2}$ + $\frac{1}{F_\pi^2 g_0}$ $[X,X]$

$\sim \frac{1}{N_c}$ $\sim N_c$ $\Rightarrow$ $[X,X] = 0$ $SU(6)_c$

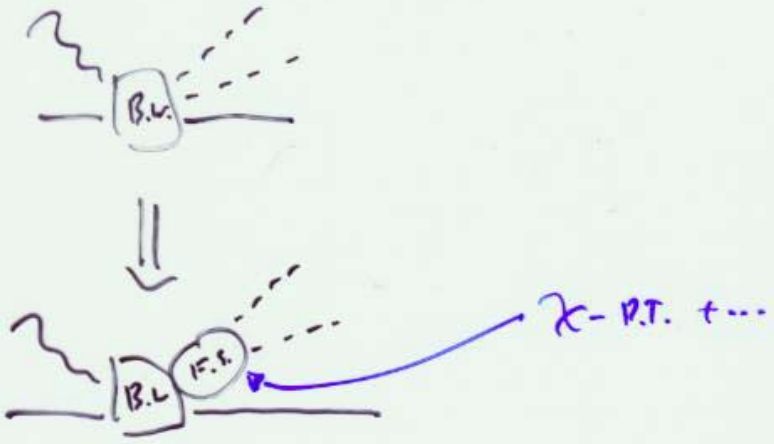
$V^0_{\pi N}$ =  $V^1_{\pi N}$ =  ....

WHAT IS SMALL EXPANSION PARAMETER ??

REAL WORLD SCENARIO

QCD CONSTRAINTS ON DATA ANALYSIS ??

EXAMPLE:



EXAMPLE 2:

USE QCD-inspired spectroscopy to pinpoint resonances

→ Q.M., Lorentz, χ-symm. +...