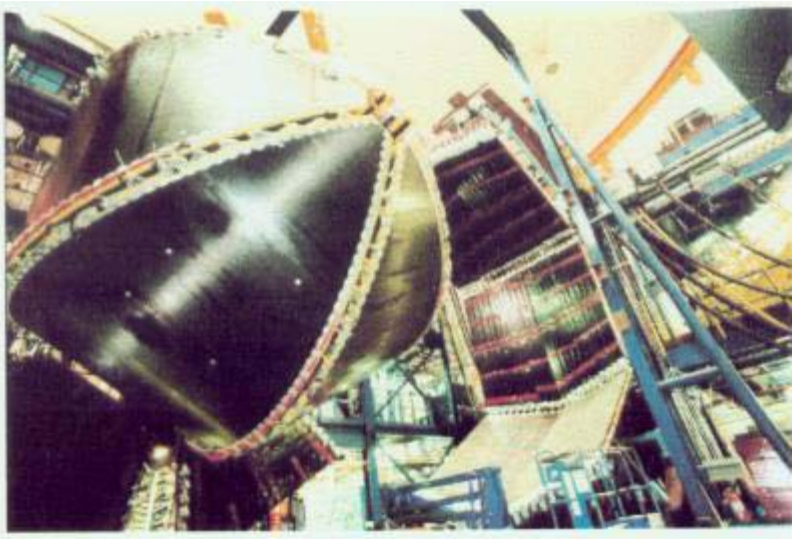
1. When will be able to declare that we understand the baryon spectrum?

2. How will we get to that point?

"When an ab initio calculation of QCD yields predictions for hadronic reactions that are accurate to a few per cent."

(a) Build hadronic theory which describes photo (& electro) production data
   - Extract resonance parameters
   - Exclude presence in certain channels & kin. ranges

(b) Understand resonance parameters as a function of Λ_{QCD}, m_u, m_d, m_s.



Problem: $\gamma p \to \pi p$ on lattice

- Euclidean space
- finite set of momenta
- IR cutoff

? Quenching

Solution (?): - short-distance in lattice / quark models

- long-distance in hadronic theory

Need to constrain hadronic theory using QCD

Q C D

Poincaré covariance

$U(1)_{em}$

χ symmetry $SU(2)_L \times SU(2)_R$

Large-N_c

Λ_{QCD}, m_q

↓

M_σ, Γ_σ, E2/M1

$M_{F_1(2187)}$ etc.

Need to find common approach (or approaches). Or minimally need to understand "theory error bar".

Quantum Field Theory of Mesons and Baryons

- To preserve symmetries may need to solve QFT exactly
- How to truncate QFT & preserve symmetries?

How much work is appropriate given that the QFT is an effective Lagrangian

Speakers:

- Allow plenty of time for questions
- Expect to get interrupted!
- Give transparencies to helpers

Participants

- Stay awake!
- Ask lots of questions.

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