IV THE EARLY HISTORY OF E288/CFS

Proposal # 288 to the Fermilab management, "A Study of Di-Lepton Production in Proton Collisions at NAL," was dated February of 1974. The text is a short one-page digest, stating the following goals:

"1. Observe and measure the spectrum of virtual photons emitted in p-nucleon collisions via the mass distribution of e^+e^- pairs.

2. Search for structures in the above spectrum, publish these and become famous.

3. [charged hadron pairs]

4. [dimuons]

5. [dimuon structures]

6. [neutral pion pairs via conversion]"

After the November revolution, we at CF/E70 realized that we had missed the boat. The dielectron phase started soon after, featuring newly-installed MWPCs built under the direction of Bruce Brown, and the J/ψ was observed at Fermilab within one year of its discovery. The dielectron phase involved a two-arm spectrometer. Again, the acceptance was small due to the need to place the detectors out of the neutral-beam envelope (at least a factor of 5 loss in acceptance). The incoming proton-beam intensity had to be scaled down since the charged-hadron rates were so high.

We took dielectron data until 1976. In the mean time, a proposal from the Stony Brook group headed by Bud Good implementing the dihadron part of P288 was accepted. This dihadron experiment would run simultaneously with our dielectron search, though with a separate experiment number — E494. The Stony Brook group built gas Cherenkov counters to differentiate among π's, K's and p's. Several of the Stony Brook physicists also joined E288 (hence the S in CFS).

By the middle of 1976, a substantial chunk of dielectron data had been taken. The first look revealed a clustering of events near 6 GeV; the probability of such a clustering anywhere in the plot was estimated conservatively at one chance in 50. We thus gave talks suggesting that this might be evidence for a new resonance. Jeff Weiss did an "availability search" of the Greek alphabet and found that the Greek letter Upsilon was not yet used (Iota was rejected since it resembles a question-mark — in hindsight, it would have been a better choice!). Walter Innes added that the name allowed us to make a Leon-type joke — Upsilon if the resonance is real, and the similar-sounding "Oops-Leon" if the resonance is false. Since our collaboration was a sucker for bad puns (considering our genealogy), we were taken in. Saner heads, such as Taiji Yamanouchi, were ignored. In our Phys. Rev. Letter [8], we backpedaled a little, by suggesting that the name Upsilon could be assigned either to the resonance (if real) or to the "onset of high-mass di-lepton physics."