

of 3 GeV). Decay muons contributed over 90% of the dimuon spectrum, but could be subtracted using measurements of accidentals. Surprisingly, a large rate of direct dimuon production was found [1]. This led Drell and Yan to publish their famous virtual-photon paper [2], so that their names were added to the HEP lexicon (the “Drell-Yan” process). (Some pundits opined that the correct terminology should be Yamaguchi-Lederman-Drell-Yan, since Yamaguchi’s paper inspired Leon’s dimuon experiment, but that would be too much of a mouthful.)

A rather enigmatic feature of the direct-dimuon spectrum was a broad bump at 3 GeV (obviously the first evidence for  $J/\psi$  in hindsight). However, Leon and his collaborators were not sure what to make of this —

- Could this be just another  $\rho'$  resonance (since the bump could be either very narrow, or broad — up to 1 GeV, one could not rule out this hypothesis)?
- Some light-cone theorists claimed that they could reproduce this bump without resorting to resonance.
- Some collaborators were vehemently against making a big deal over the resonance interpretation.

Leon decided to pursue this physics further with proposals at the CERN ISR and the soon-to-be-built Fermilab machine. One of his collaborators, Peter Limon, proposed a follow-up dielectron experiment at Brookhaven using existing detectors from the Lindenbaum group, but that idea died from lack of interest. A year afterward, Sam Ting proposed his BNL dielectron experiment, and the rest was history.

I was witness to an aftermath in August of 1974. Sitting in the Fermilab cafeteria, I heard Mary K. Gaillard (see paper mentioned in Section III) tell Leon that his Brookhaven bump was charmonium. It’s clear that Leon’s BNL bump was ahead of its time — had his result come after the acceptance of the GIM hypothesis [3], it would have been natural to interpret it as a charmonium state!!!

### III WHAT WERE YOU DOING WHEN THE $J/\psi$ WAS DISCOVERED... (NOVEMBER 1974 REVOLUTION)

The series of experiments E70/E288/E494 was proposed by Leon and his collaborators on June 17, 1970. The co-authors included Taiji Yamanouchi and Jeff Appel; many other co-authors on the proposal to the then-National Accelerator Laboratory (since renamed Fermilab) either started new similar experiments (W. Lee, L. Read), or dropped out before the experiment was