

Arnaud asked me for a brief and humorous talk on the 200 papers from Run 2. There are two problems: First this works out to about 2 seconds per paper (well, less now after this introductory sentence), and second, great though they might be, our papers hardly qualify as a humor magazine! So instead, I offer a quick guide to those papers that tickled my fancy particularly, one each for each of our six physics groups and one for the detector itself. I note that not all are fully published as yet -- and I apologize to the significant others here who probably won't appreciate the physics chatter. But I will be brief!

1. **Electroweak:** No doubt the most *important* of our EW papers was the 1 fb^{-1} W mass. As EB chair, I can tell you at first hand there was really nothing humorous about its coming of age. I was pleased with the paper showing evidence for the radiation zero in $W\gamma$ production since we said in the 1983 proposal that we would do this. (In it, the line drawn "to guide the eye" went a long way to making the effect visible). But, let me hold up for consideration the evidence for ZZ production in the $\nu\ell\ell$ final state. Here we employed a new "variable" which was really a concoction to give the minimum missing E_T remotely possible in an event. That variable definition was sufficiently succinct that it took only 44 column inches of text and figures to describe it!
2. **Heavy flavor:** Hadron colliders in general and $D\bar{0}$ in particular, were not supposed to be vehicles of choice for precision measurement of b-physics. Finding new heavy states inaccessible to the B factories was perhaps not so surprising. Measuring the $B_s - B_s\text{bar}$ oscillation frequency was more of a tour de force. But for me the highlight is the like-sign dimuon asymmetry paper. Partly because it so forcefully caught the popular imagination ("Why are we here?"), but partly also as a monument to the decade-long single-mindedness by an individual who believed that there was paydirt to be found in this study.
3. **Higgs:** After spending the larger part of a month earlier this summer reading and guiding the new crop of Higgs searches, I cannot say that *any* of them are my favorites at this moment! They are all careful and extensive, with every variable in sight reweighted, and then subjected to the oft-unfathomable caprices of COLLIE. No, my favorite was the humble re-measurement of the diboson cross section in the $\ell\nu jj$ final state using the Higgs methodology. This measurement, though less precise than our earlier diboson measurements using only leptons, was nevertheless a key result that verified many of our Higgs search multivariate and frequentist limit setting techniques. Now if we could only get ZZ production via the $\ell\ell b\bar{b}$ channel!
4. **New Phenomena:** Roughly half of our 200 Run 2 publications are titled "Search for Whatchamacallits". I have no favorite since none turned up a new discovery. My choice then goes to the snappiest title of them all: the forthcoming "Search for Quirks in the Tevatron Collider". One would have thought we need not look hard for misbehavior of the Tevatron!
5. **QCD:** The inclusive jet measurement was a tour de force of careful calibration and control of a very tricky data set. That might be our lasting physics legacy in QCD, but the later use of this data set to measure the running α_s caught my fancy. Again, we said we would measure the running α_s in the original proposal (from the 3 jet to 2 jet ratio), and in Run 1

tried (and failed) to get it from the W +jets cross section as a function of jet E_T threshold. Seeing α_S decrease with Q^2 from just one experiment, just like the theory says it should, is a textbook plot that should last.

6. **Top:** We have measured the properties of the top quark in lots of ways. We measured its mass to 1%. We made a big splash with the single top evidence, observation, and then disentanglement of the t - and s -channel subprocesses. These will be the legacy, but my candidate for the poster child is the very recent measurement of the top quark lifetime of 5×10^{-25} sec. That's a pretty short time (half a yoctosecond) – How did they do it? Why did they do it? Gee Whiz!
7. **Detector:** My candidate for a detector paper (we don't publish so many which is perhaps a shame) is the Layer 0 Silicon Detector paper. What a tour de force Layer 0 was: built on time (unique in our history), on budget, and then carefully inserted inside the bore of the most delicate detector in the experiment without a scratch. Our physics capability has been markedly increased by Layer 0. And this paper underscores the extent to which all our physics papers rely on the amazing work of those who designed and built the D0 detector elements over the years. My special thanks to them!

Congratulations to you all on producing 200 papers. But I wonder how long will it be before we reach 436 and break the one paper per author milestone?