

DØ Collaboration Meeting, October 2002

Opening Remarks

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10/9/02



News

- **Where is Harry?**
 - **At the ICFA meeting at CERN**
 - **Hence no Weerts-fest this meeting**
 - **Rest assured, we're planning such an event for the next collaboration meeting**
- **Trigger Meister Transition**
 - **Tom Diehl and Terry Toole are new TM's**
 - **Thanks to Levan Babukhadia and Elizabeth Gallas**
- **Greg Snow, Breese Quinn and Sherry Towers are developing a proposal for a tour area in DAB3**
- **Job bulletin board outside 9th circle**
- **New institutional board deputy chair**
 - **Nick Hadley has been elected**

**Remember: DØ get-together
at the Users Center tonight**

Greg Snow on Friday



Run IIb

- **Lehman Review**
 - DØ did extremely well – thanks to Jon and his very able team
 - We are now tweaking the schedule based on the committee's recommendations
 - Various additional reviews . . .
 - Expect final decision from DOE (Peter Rosen) in November
 - We can and will continue to spend on R&D before then

Jon Kotcher, Regina Demina and Hal Evans on Friday

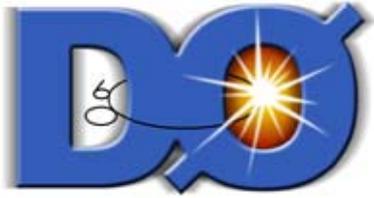
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- **Run IIa Level 2 trigger**
 - The Level 2 beta Oversight Committee has given the green light to start the production of the boards. This is a great success for the collaboration between Virginia and Orsay, and for the Orsay team who designed and built the prototypes.



Computing news

- **Kin Yip is now serving as offline (“SAM”) shift coordinator**
 - **Thanks to Don Coppage for his help over the past 6 months**
- **Offline Analysis Task Force**
 - **Vicky has some new responsibilities(!) so we have added Pierre Petroff as a third co-chair to serve with her and Nick Hadley**
 - **Progress with prototype center(s)** **Nick Hadley this morning**
- **Clued0 ssh server**
 - **Requested a variance from computer security policy to allow this to continue**
 - **Request was denied**
 - **Server will have to be shut down by January 1**





Windows 2000/XP Migration Schedule

Fermilab Strong Authentication: Last year was Unix, this year it is windows

- Lab mandates windows migration to be complete by 12/31/02
- **Reality:** All W2K/XP machines at D0 will be migrated by 12/31/02
- All remaining NT4 machines migrated as time/money allow
- If file/print servers are moved to FERMI on 12/31/02, no access from DZERO NT domain. Must be via FERMI account.

Current Schedule:

DAB6 10/2 thru 10/11
DAB5 10/14 thru 10/18
DAB3 10/21 thru 10/25
DAB2 10/21 thru 10/25
DAB1 10/21 thru 10/25
PK177 10/28 thru 11/8
PK151 11/15 thru 11/22
PK173 11/25 thru 12/6
PK158 12/9 thru 12/13
Outback 12/9 thru 12/31

Comments/questions?
Email: d0-nt_admin@fnal.gov
<http://d0server1.fnal.gov>
<http://www-win2k.fnal.gov>

Tracking

- The tracking algorithm recommendation committee met on September 20 and proposed that we run GTR+HTF as the default tracking algorithm in p13 reco. **Tom Diehl this morning**
- We will also continue to develop and improve tracking performance in data – everyone, especially the developers, understands that present level is inadequate for our physics goals.
 - (so don't complain; volunteer to help).
- Mike Hildreth has agreed to serve as the new co-leader of the global tracking group (with Herb Greenlee).
 - Thanks to Valentin Kuznetsov
 - Additional help for tracking from Kansas State and Arizona



Speakers Bureau

- **Dave Hedin, Bernard Pope and Mike Strauss** have served as able members of the Speakers Bureau for more than three years and their terms are now are up.
- **Mike** has graciously agreed to continue. **Mike Tuts** and **Greg Bernardi** have been added.
- **The new makeup of the speakers bureau is:**
 - **Greg Bernardi (chair), Iain Bertram, Greg Landsberg, Christophe Royon, Mike Strauss, Mike Tuts, Spokespersons, Boaz Klima (ex-officio, Physics Coordinator), Tom Ferbel (consultant)**
- **Nominations (even self nominations) of speakers for conferences are welcome. The committee gives weight to all contributions to DØ, not just physics analysis.**



How are we doing?

- **I believe that we have now convinced the world that DØ is taking physics data**
 - **For example, excellent series of presentations by DØ speakers at the HCP conference last week**
- **But we must be honest with ourselves**
 - **Tracking and calorimeter L1 triggers**
 - **FPD integration**
 - **DAQ rates**
 - **Operational efficiency**
 - **Offline tracking efficiency**
- **You will see from the presentations at this meeting that we have achieved a great deal recently – shows we can push our performance when we set ourselves goals that are aggressive but achievable**

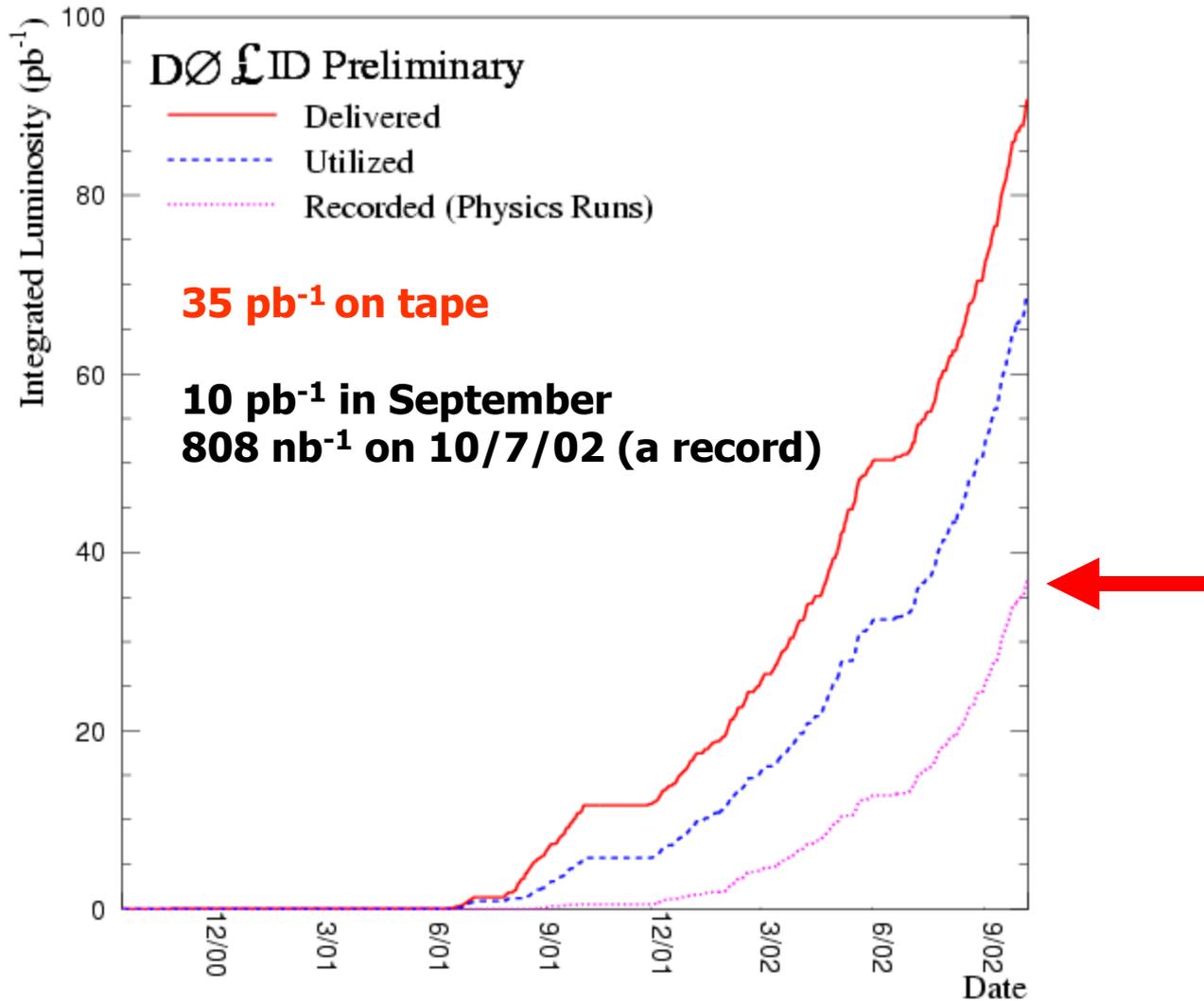


Goals for the Autumn

- **Our aim is to set physics-based goals for D0 that will push our performance significantly beyond current levels in time for the winter conferences:**
 - **Collect a dataset of at least 50pb^{-1} by the end of 2002 exploiting the new features of our detector and generate physics results for the March 2003 Moriond conference.**
- **Recall that in 1995 we discovered the top quark with a similar amount of data. The production cross section is 35% higher now at 1.96 TeV, and we can have much better S/B with silicon b-tagging.**
- **Not just about “physics:” we want to drive the priorities for**
 - **Data collection and detector operation**
 - **Triggering**
 - **Data analysis infrastructure**
 - **Reconstruction and software development**
- **Boaz will talk about the analysis goals next; here I will highlight some of these other activities**



Data on Tape

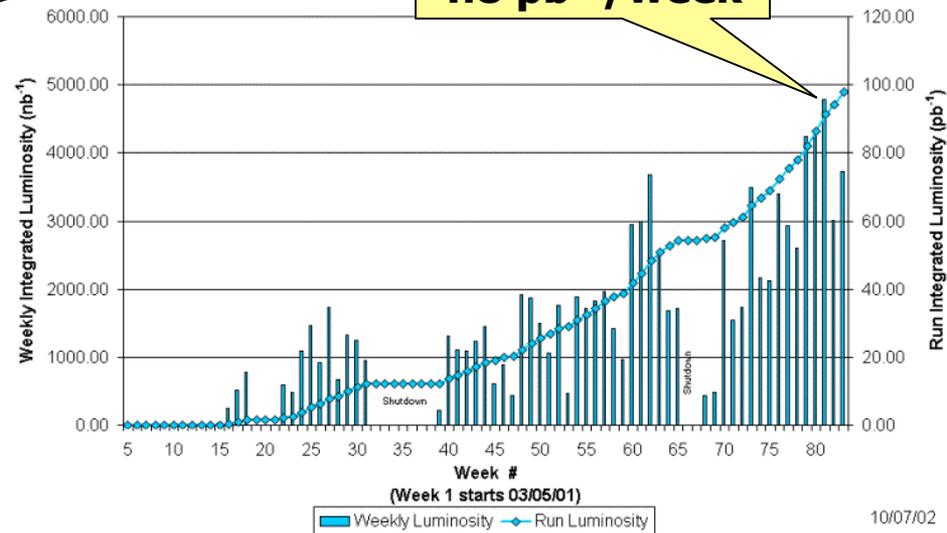
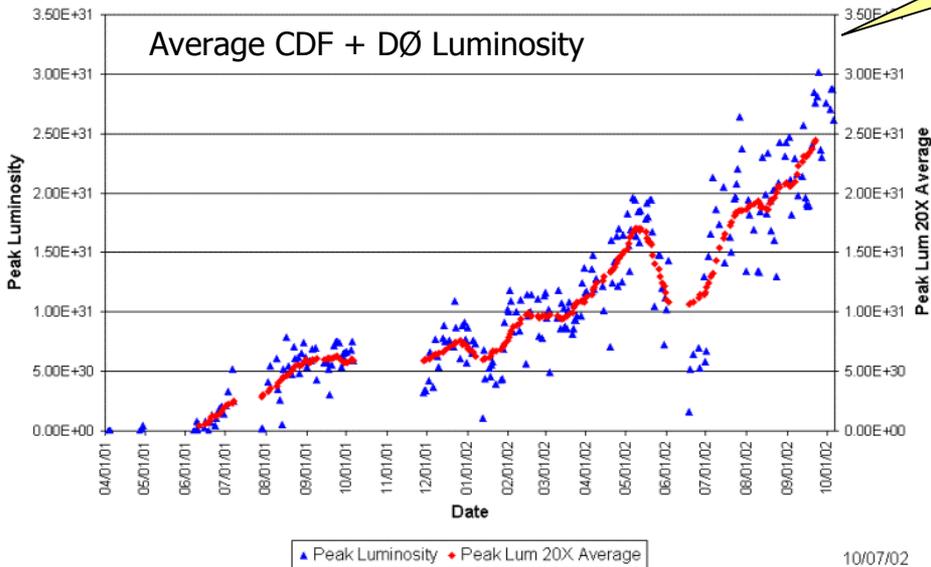


Tevatron Performance

- Getting better, albeit s-l-o-w-l-y
- Now exceeded run 1 performance

New record store 3.4×10^{31} yesterday (10/8/02)

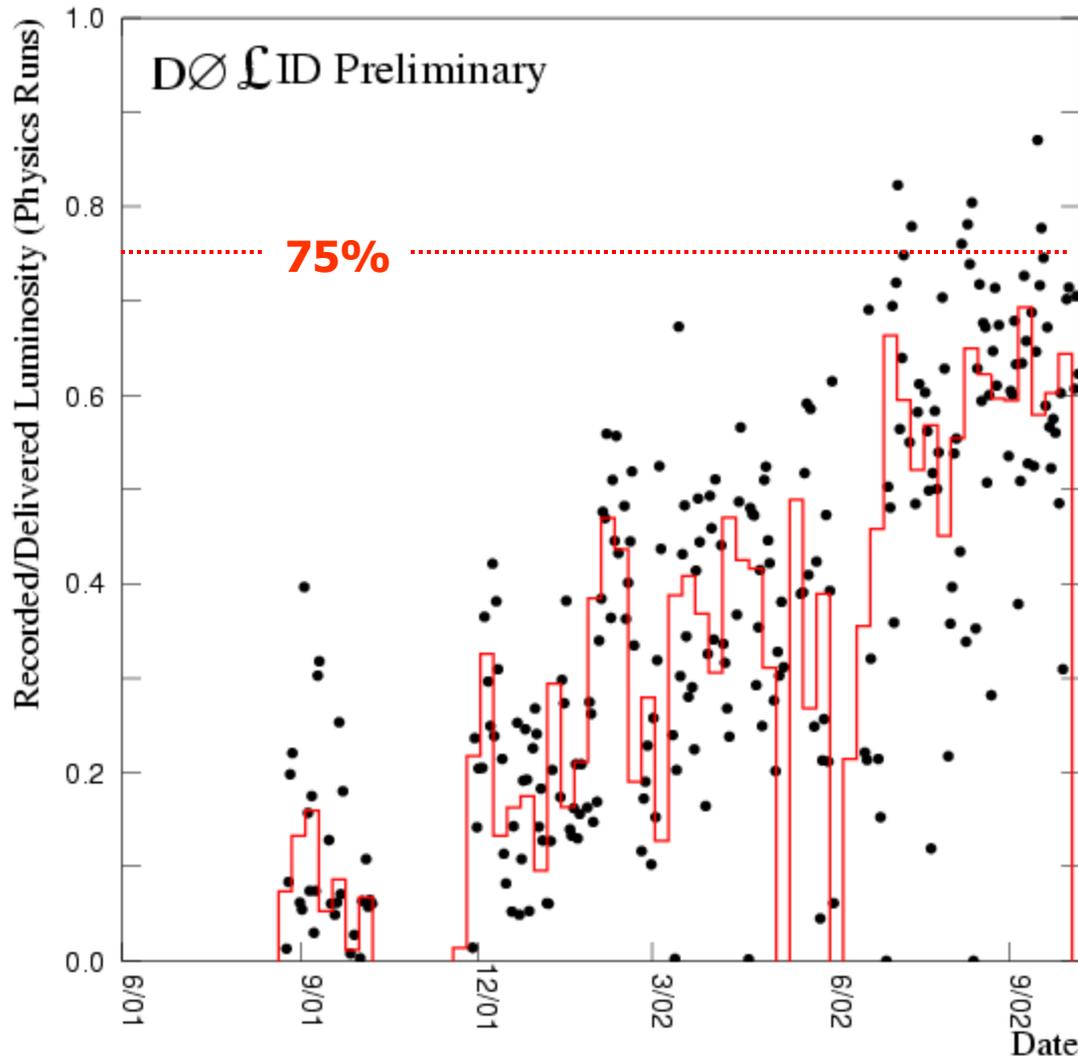
4.8 pb⁻¹/week



- Accelerator goals for the next year are still being developed, but don't sound very optimistic at the moment
- Big DOE review of the accelerator later this month



$$\text{Overall } D\bar{O} \text{ efficiency} = \frac{\text{Recorded luminosity}|_{\text{physics runs}}}{\text{Delivered luminosity}}$$



**Averaged ~ 60%
in September**

**Averaging ~66%
in October so far**

The trend is good

**Immediate goal:
75%**



What's happening

- Significant improvements in operational efficiency and DAQ rates

Alan Stone this morning

- Jerry and I are trying to identify institutional commitments that can augment effort for “understaffed” detectors

- Calorimeter Task Force

Marek Zielinski this morning

- Trigger Board

Nikos Varelas on Friday

- The farm crew are pushing data through with high efficiency and are working hard to bring up new nodes to clear our backlog of data

Jianming Qian on Friday

- An intense effort from the Analysis Tools Group + friends to get streaming implemented and working

Adam Lyon on Friday

- P13.00.00 was frozen as scheduled (week of Oct 1)

- Software tutorials (“Marco’s railway system”) ~ 150 participants!



Getting where we need to go

- Both DØ and CDF have similar amounts of decent data on tape
 - CDF have recorded $\sim 35\text{pb}^{-1}$ with their silicon detector online
- The challenge for us is to make as good use of these data as they will
 - Have to balance the need to continue improvements with the need for stability/understandability of datasets, releases, etc.
 - This may – no, will – produce tensions; we all need to be aware of this, and realise that we share the same long term aim:

To ensure DØ performs at the 95% level, not the 65% level

