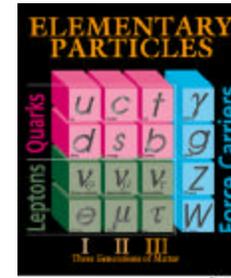


The DØ Physics Effort

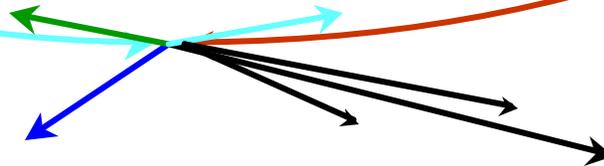
Boaz Klima
Fermilab



Collaboration Meeting

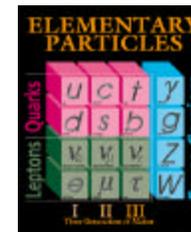


July 25, 2001





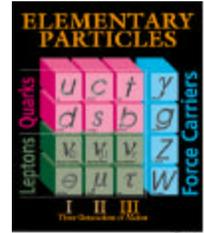
First reaction to becoming PC



“the figure timidly tiptoe-ing among a forest of towering legs”



...but then...

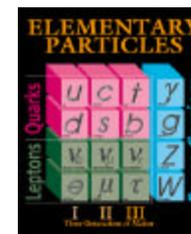


Don't be humble;
you are not that great

(Golda Meir)



Thanks



- To **Nick** for all the work he has put into forming these groups and shepherding them to this point
- To all convenors replaced this time around (**Ron, Dave, Bob, Alice, Rick, Sharon, Iain, and Armand**) for job well done
- To **Gustaaf** for taking the challenging Level3 responsibility; will be back in physics leadership position in 2 years



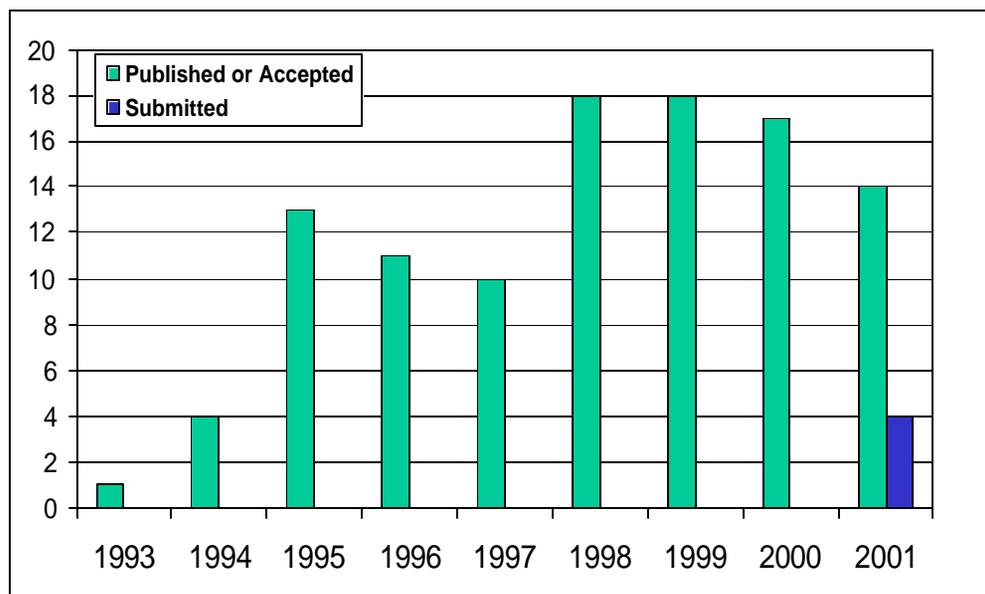
Run 1 still going strong



- Run 1 analyses
 - ~20 analyses still “in the works”
 - Groups folded onto Run 2 groups (same leaders)
 - Jianming coordinates until end of 2001 (thanks!)

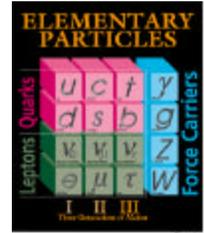
- Publications

- ~110 so far!
- Collection no. 6 (Y2K) is out (thanks, Tom!)
- Indicates how strong we can be when we put our heart and mind into it





DØ Physics Plan



- Long Term

Healthy program for many years

- Short Term

Moriond (followed by Summer 2002 conf's)



Structural Changes



- Added Trigger Board (**TB**) and Offline Resources Board (**ORB**) – **Physics reps**
- Added Jet Energy Scale (**JES**) group – concentrated effort, priority, message
Physics groups need to help this group and soon
- Split HiT into **Higgs** and **Top**
 - Already very large group; will grow further
 - Different emphasis despite commonalities
 - Different mode of operation (search vs measurement)
 - Why now?
 - ◆ It will take time to recover (create two new groups)
 - ◆ We better do it now (no data yet) rather than next year (data flowing, pressure to produce results)



Trigger Board (TB)



- Charge
 - Verification - trigger terms, configurations, scripts etc; they do what they are specified to do
 - Arbitration – apportionment of resources based on guidance from the Physics Coordinator (physics groups reps)
 - Monitoring and Development - monitoring the performance and evaluating the needs of DØ triggering
- Membership
 - Darien Wood (**co-chair**), Leslie Groer (**co-chair**)
 - Michael Begel, Gustaaf Brooijmans, Dmitri Denisov
 - **Physics groups reps** – Rick Jesik (B), Suyong Choi (Higgs), Yuri Gershtein (NP), Andrew Brandt (QCD), Dugan O’Neil (Top), Amber Boehnlein (WZ)
 - Elizabeth Gallas and Levan Babukhadia – **Triggermeisters** (ex-officio)



Offline Resources Board (ORB)



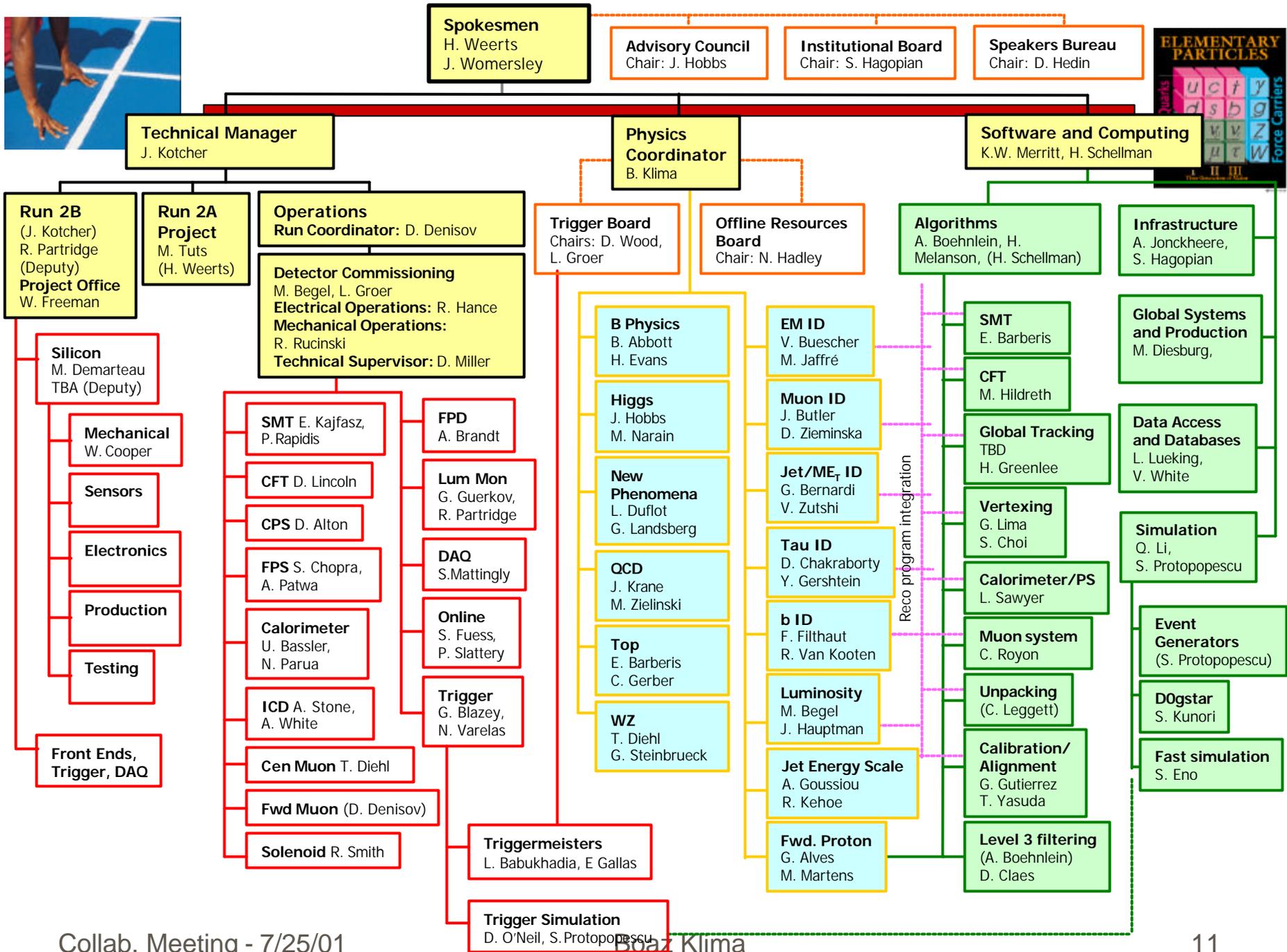
- Charge
 - Regulate our offline resources on guidelines from the Physics Coordinator, promote efficient usage of the computing resources available to DØ by setting appropriate policies
 - Details
 - ◆ Apportioning the size of group caches and bandwidth in SAM
 - ◆ Devising project disks and a batch queue scheme on d0mino
 - ◆ Acting on requests to store samples long term
 - ◆ Acting on requests to store samples long term in the tape robot
 - ◆ Assigning priorities for MC or Data processing on all farms
- Membership
 - Nick Hadley (chair)
 - Iain Bertram, Mike Diesburg, Ulrich Heintz, Lee Lueking, Roger Moore, Thomas Nunnemann, Sherry Towers
 - Physics groups reps – Bill Lee (B), Neeti Parashar (Higgs), Andy White (NP), Iain Bertram (QCD), ??? (Top), Andrew Askew (WZ)

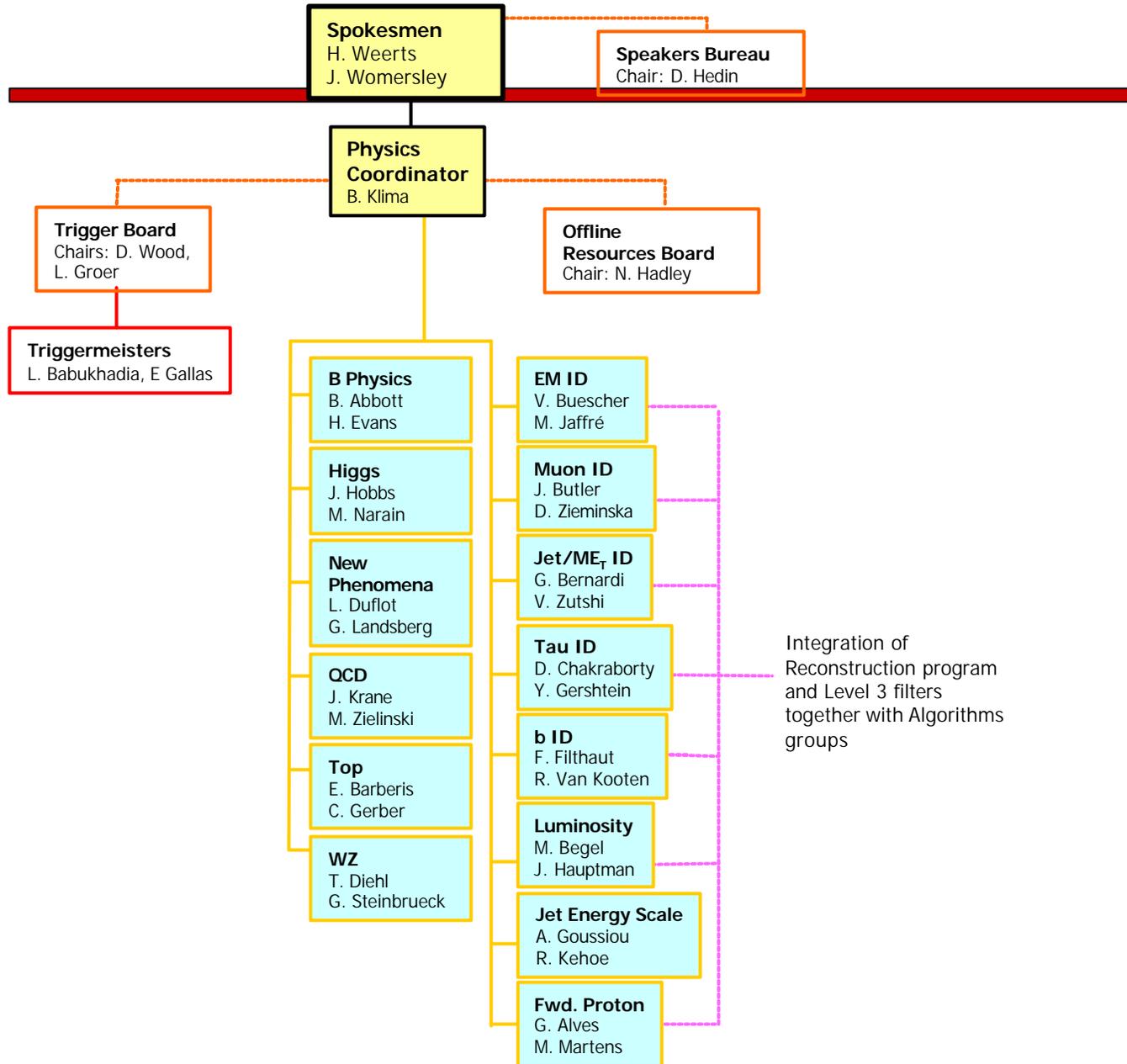
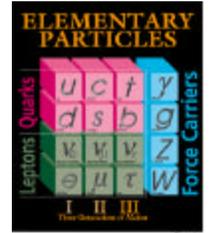


JET/ \cancel{E}_T vs JES



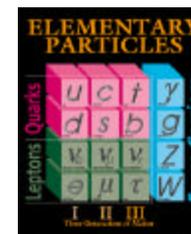
- Jet/ \cancel{E}_T
 - Develop algorithms (cones, k_T , cell_NN,...)
 - Tuning parameters
 - Hot cell (NADA)
 - Triggers (L1, L2, L3)
 - All the above for \cancel{E}_T (algorithms and triggers)
- JES
 - Calibration (MPF, E/p, NN,...)
 - B jets calibration ($Z \rightarrow b\bar{b}$)
 - MC vs Data
 - Resolution







How did we pick convenors



- Quote of the day – “I don't want any yes-men around me. I want everybody to tell me the truth, even if it costs them their jobs” (Sam Goldwyn)
- EEE - Experts, Energetic, Enthusiastic
- Leaders – proven or in-the-works
- Wide-based (geography, gender,...)
- Excluded some key/critical people in other areas (to be considered next time around)

They will need your help!!!

Those not picked yet interested & capable may serve as subgroup/task leaders
There will be another round next year, the year after that etc etc



Misc (general comments)



- All of us are part of **one experiment** DØ – don't forget that when considering your acts
- **Overlap** is unavoidable – **work together**
- **Tevatron** working groups
 - Agreed upon by CDF, DØ, and Fermilab
 - We'll continue to put pressure to get going
- **Talks** for conferences have to be **rehearsed** !
(see guidelines on Physics web page)
- Whatever else I forgot...



Physics Groups - membership



- Based on the mailing distribution lists*
(on the Fermilab LISTSERV as of July 23, 2001):
 - B - 62
 - Higgs - 84
 - NP - 113
 - QCD - 49
 - Top - 81
 - WZ - 28
- All seem to be growing; some more than others
- ★ Disclaimer - mailing distribution list is not necessarily the list of active members of a group



Where are we now?

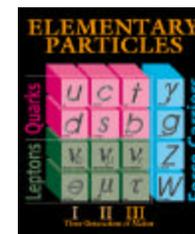


- Still lots to do before we get to Physics
 - Complete the detector + trigger system
 - Understand what it does – Commissioning/Integration
 - Calibrate, align, develop algorithms (L3&Offline)
 - Everything else that nobody wants to talk about...

- However, a lot has already been accomplished
 - We see tracks, vertices, muons, jets, ...
 - We are about to see first electrons, W's, Z's, J/ ψ 's,...
 - We begin to insert physics-related (non-pure commissioning-related) triggers in the trigger list
 - Algorithm/Id groups work both on Data and MC (DØRECO)
 - Physics groups gearing up for long and short-term challenges



Conclusions



- Exciting times ahead of us
- Still lots to do before we get to Physics
- Much has already been accomplished
- If you haven't done so, get involved ASAP
- We should all work together in a very coherent and focused way

Let's get ready to produce first Physics results in 2002!