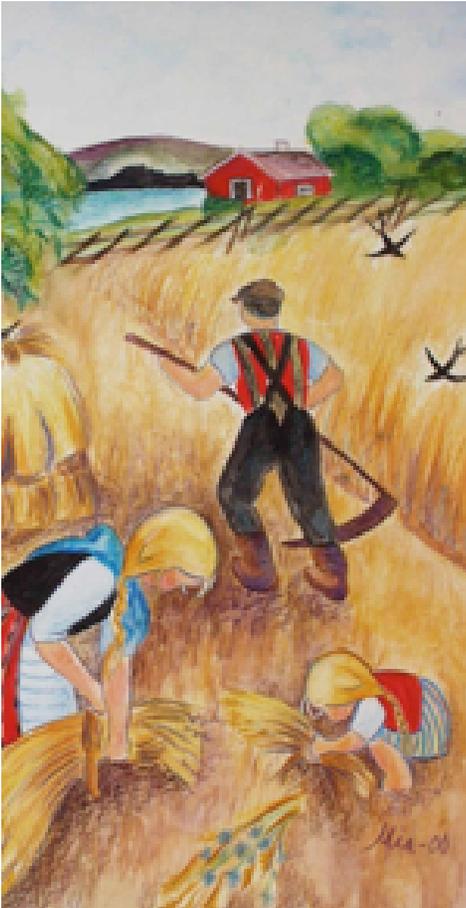




Stato di CDF in breve

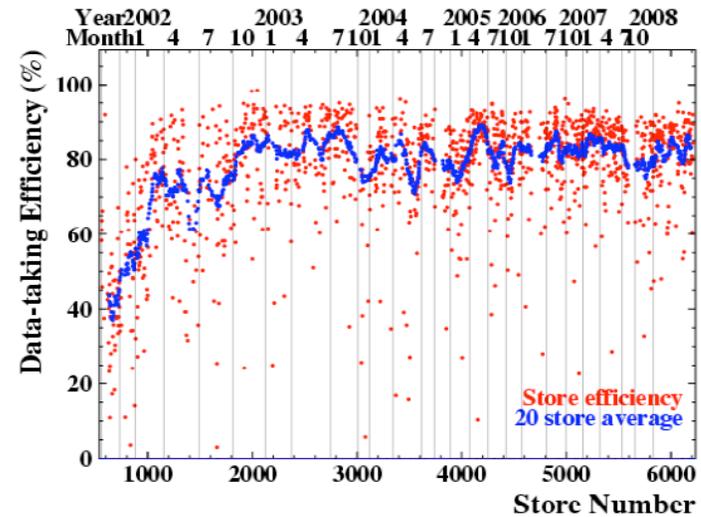
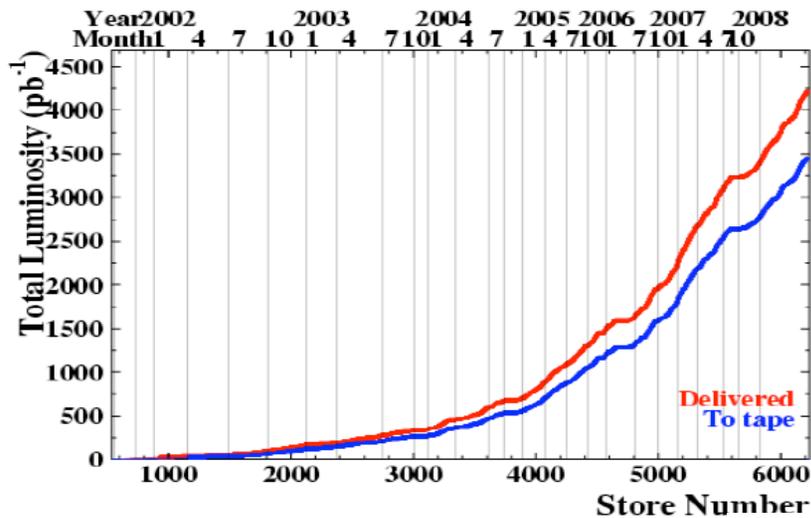


- Il Tevatron e CDF godono di ottima salute
- La luminosita' di picco ha superato 3×10^{32}
- 3.4 fb^{-1} acquisiti "on tape" dall'inizio del Run II
- Estensione al 2010 appare probabile
- ~50 nuovi (*) risultati presentati alle conferenze invernali
- I recenti upgrades del trigger e tecniche di analisi piu' sofisticate migliorano le prospettive di CDF nella ricerca del bosone di Higgs

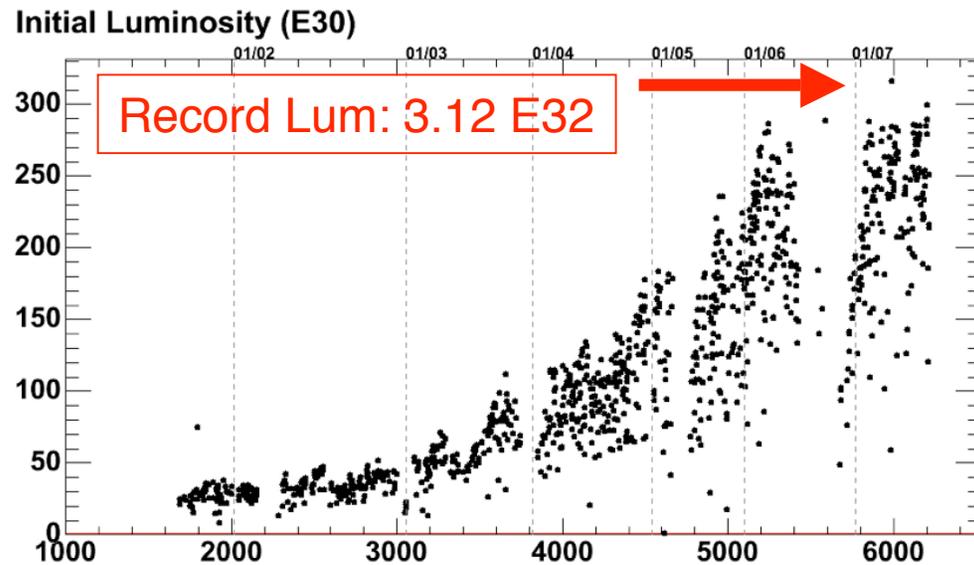
(*) post summer 07 conferences



Performance of CDF and the Tevatron



Integrated Luminosity:
Delivered: 4.2 fb^{-1}
On Tape: 3.4 fb^{-1}

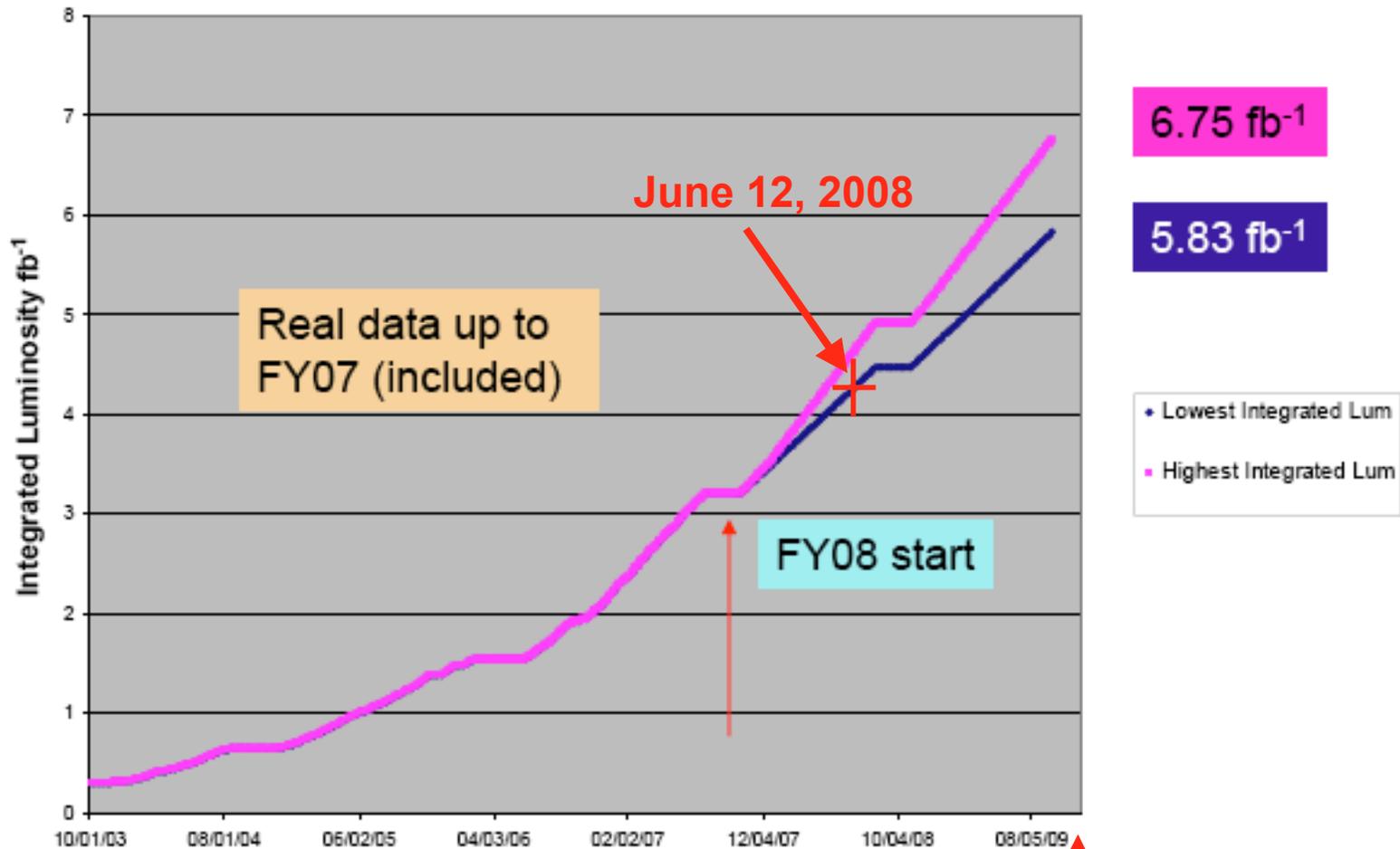




Integrated Luminosity Projection

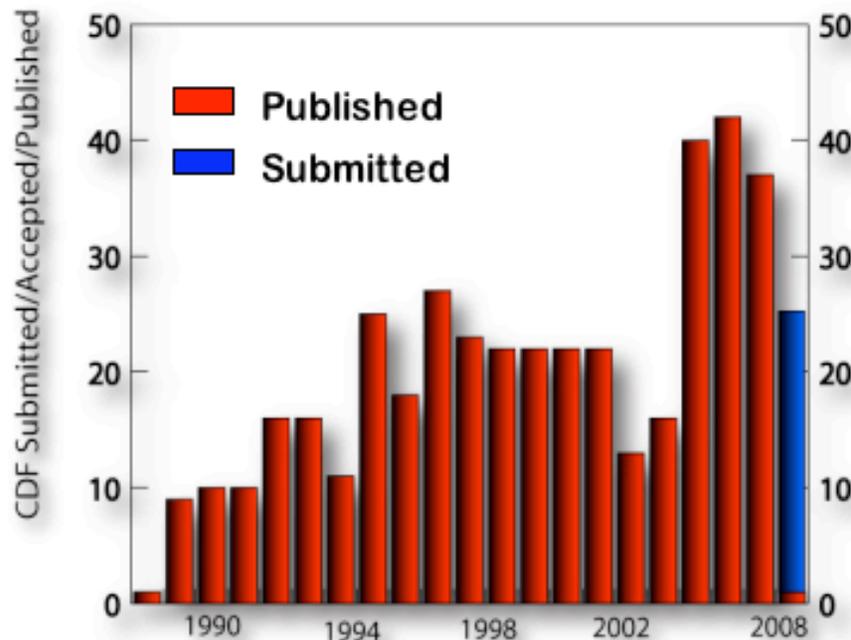


Projected Integrated Luminosity in Run II (fb^{-1}) vs time





Publication Status



- CDF: 415 publications total
 - 145 in Run 2
 - 38 last year
- We have 26 submitted so far in 2008
 - another 50+ in internal review
- We're efficiently publishing our results as we go



New Physics Results (1)



Bottom Physics

Analysis	Luminosity	More Information
Observation of $B_c \rightarrow J/\Psi \ell \ell$ and Precision Mass Determination	2.4 fb^{-1}	Paper
Evidence for D^0 - \bar{D}^0 Mixing Result	1.5 fb^{-1}	Webpage Paper
Constraining CPV phase β_s using flavor tagged $B_s \rightarrow J/\Psi \ell \ell$	1.3 fb^{-1}	Webpage Paper
Precise Determination of B_s lifetime	1.3 fb^{-1}	WebPage
Measuring A_{CP} in charmless Λ_b Decays	1 fb^{-1}	Webpage
Measurement of BF and CP Asymmetries in $B \rightarrow D_{CP} K$ Decays	1 fb^{-1}	Webpage
Psi(2S) Production Cross Section	1 fb^{-1}	Webpage
Search for $D^0 \rightarrow \mu^+ \mu^-$ Decays	360 pb^{-1}	WebPage

Electroweak Physics

Analysis	Luminosity	More Information
Limits on Anomalous Triple Gauge Coupling using WZ events	2 fb^{-1}	WebPage
Limits on Anomalous Triple Gauge Couplings using $Z\gamma$ events	2 fb^{-1}	WebPage
First Measurement of the ZZ cross section	2 fb^{-1}	WebPage
Measurement of $d\sigma/dy$ using Drell-Yan Dielectron events	2 fb^{-1}	WebPage
WW and WZ Production in the $l\nu jj$ Final State	1.2 fb^{-1}	WebPage
W Production Charge Asymmetry	1 fb^{-1}	WebPage

QCD Results

Analysis	Luminosity	More Information
Measurement of the Z+b Cross Section	2 fb^{-1}	WebPage
Measurement of the W+c Cross Section	1.8 fb^{-1}	WebPage
Measurement of the W+b Cross Section	2 fb^{-1}	Coming Soon

snapshot of <http://www-cdf.fnal.gov/physics/W08CDFResults.html>



New Physics Results (2)



Exotic Physics

Analysis	Luminosity	More Information
Search for Chargino/Neutralino Production using Trilepton Events	2 fb ⁻¹	WebPage
Search for Direct Production of SQuarks and Gluinos in MET+Jets	2 fb ⁻¹	WebPage
Search for high mass resonance decaying to e ⁺ e ⁻	2.5 fb ⁻¹	WebPage
Search for Anomalous Production of γ + MET Events	2 fb ⁻¹	WebPage
Global Search for New Physics at High-p _T	2 fb ⁻¹	WebPage
Search for New Physics in the Dijet+Missing energy Final State	2 fb ⁻¹	Coming Soon
Search for New Physics in the $\gamma\gamma$ +Missing energy Final State	2 fb ⁻¹	Coming Soon
Search for DiJet Mass Resonances	1 fb ⁻¹	WebPage

Higgs Physics

Analysis	Luminosity	More Information
Search for WH \rightarrow lv bb Events	2 fb ⁻¹	WebPage
Search for VH \rightarrow MET+ bb Events	1.7 fb ⁻¹	WebPage
Search for Susy higgs in h \rightarrow $\tau^+\tau^-$ Events	1.8 fb ⁻¹	WebPage
Search for SM VH, VBF, and gg ii h \rightarrow $\tau^+\tau^-jj$ Events	2 fb ⁻¹	WebPage
Search for h \rightarrow WW [*] Events	2.4 fb ⁻¹	WebPage
Search for SuSy higgs in (bb)h \rightarrow bb(bb) events	2 fb ⁻¹	Coming Soon
Updated CDF SM Higgs Combination	2 fb ⁻¹	WebPage
Updated CDF+D0 SM Higgs Combination	2 fb ⁻¹	WebPage

snapshot of <http://www-cdf.fnal.gov/physics/W08CDFResults.html>



New Physics Results (3)



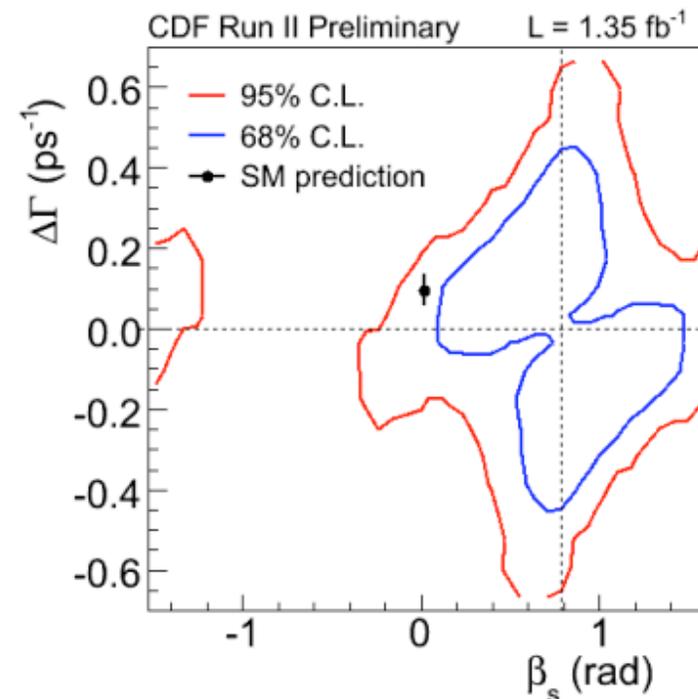
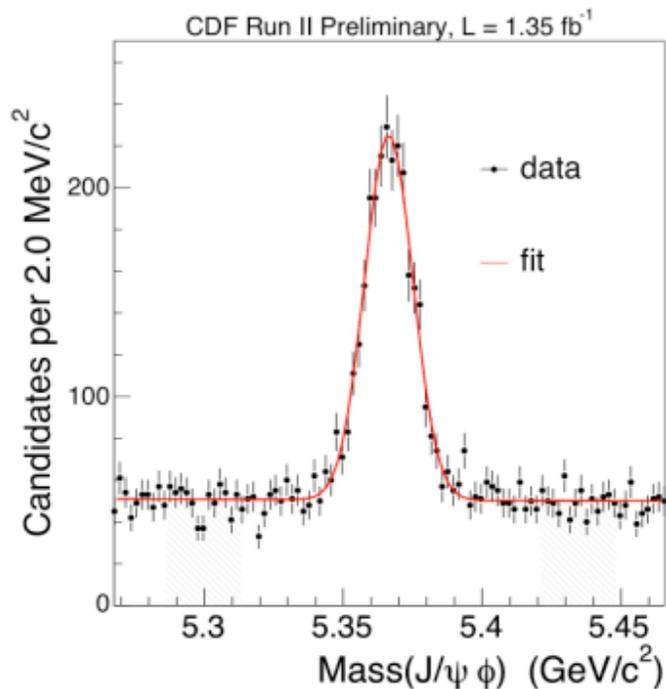
Top Physics

Analysis	Luminosity	More Information
Search for a heavy $T' \rightarrow Wq$ in Lepton+Jets Events	2.3 fb ⁻¹	WebPage
Search for Single-Top Production using a Matrix Element Method	2.2 fb ⁻¹	WebPage
Search for Single-Top Production using a Neural Network Discriminant	2.2 fb ⁻¹	WebPage
Search for Single-Top Production using a Likelihood Function Discriminant	2.2 fb ⁻¹	WebPage
Combination of CDF Single-Top Results	2.2 fb ⁻¹	WebPage
A Measurement of M_t in the DiLepton Channel using a Matrix Element Method	2 fb ⁻¹	WebPage
A Measurement of M_t in the Lepton+Jets Channel using a Matrix Element Method	2 fb ⁻¹	WebPage
A Measurement of M_t in the All-Hadronic Channel using a Template Method	2 fb ⁻¹	WebPage
Combination of CDF Top Mass Results	2 fb ⁻¹	WebPage
Tevatron Combination of Top Mass Results	2 fb ⁻¹	WebPage
A Measurement of M_t in the DiLepton Channel using a ν weighting Method	2 fb ⁻¹	WebPage
A Simultaneous Measurement of M_t in the Lepton+Jets and DiLepton Channels using a Template Method	2 fb ⁻¹	WebPage
Measurement of W-Helicity Fractions in $t\bar{t}$ decays using an Unfolding Method	2 fb ⁻¹	WebPage
Measurement of W-Helicity Fractions in $t\bar{t}$ decays using a Template Method	2 fb ⁻¹	WebPage
Measurement of the Longitudinal W-Helicity Fraction in $t\bar{t}$ decays using a Matrix Element Method	2 fb ⁻¹	WebPage
Combination of CDF W-Helicity Results	2 fb ⁻¹	Coming Soon
Measurement of A_{FB} in $t\bar{t}$ events	2 fb ⁻¹	WebPage
Another Measurement of A_{FB} in $t\bar{t}$ events	2 fb ⁻¹	WebPage
A Search for $t\bar{t}$ resonance using Dynamic Likelihood Method	2 fb ⁻¹	WebPage
Search for the FCNC Decays $t \rightarrow Zq$	2 fb ⁻¹	WebPage
Search for $W' \rightarrow t\bar{b}$ Events	2 fb ⁻¹	WebPage
A Measurement of the $d\sigma / dM_{ll}$ Differential Cross Section	2 fb ⁻¹	WebPage
$t\bar{t}$ Cross Section using $e\bar{e}, \mu\bar{\mu}, e\bar{\mu}$ Dilepton events	2 fb ⁻¹	Coming Soon
A Measurement of M_t in the Lepton+Jets Channel using a Dynamic Likelihood Method	1.7 fb ⁻¹	WebPage
Combined Measurement of the Fraction of $gg \rightarrow t\bar{t}$ Produced Events	2 fb ⁻¹	WebPage

snapshot of <http://www-cdf.fnal.gov/physics/W08CDFResults.html>

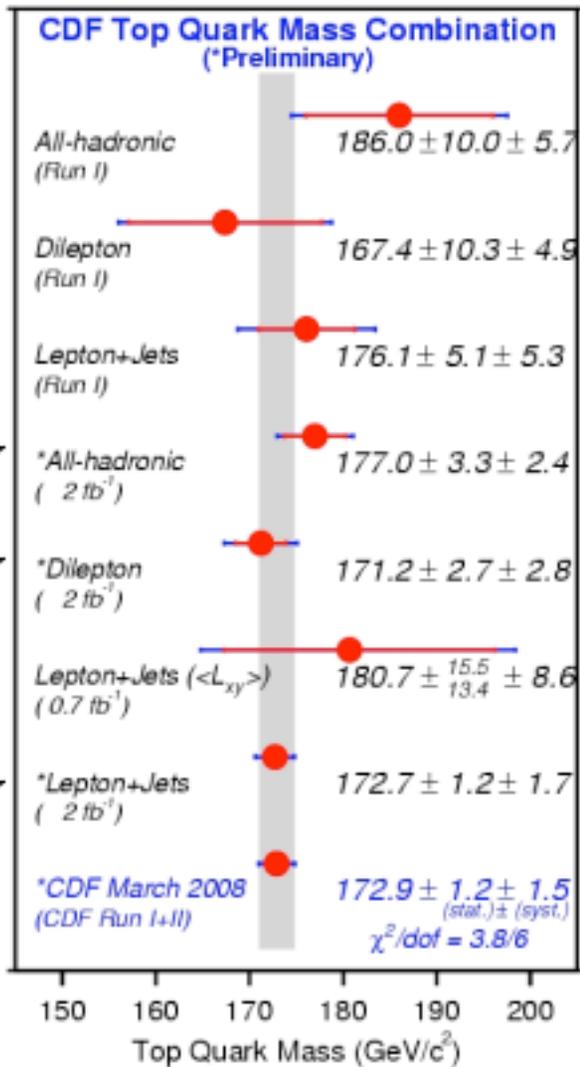


- Use ~ 2000 $B_s \rightarrow J/\psi \phi$ events in 1.35 pb^{-1}
 - Flavor tag initial state: $\epsilon D^2 = 4.9\%$

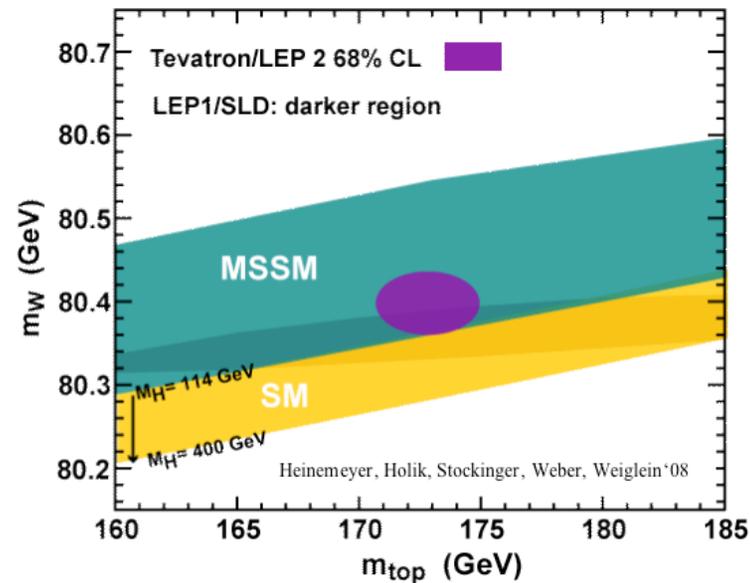




Physics: Top Mass

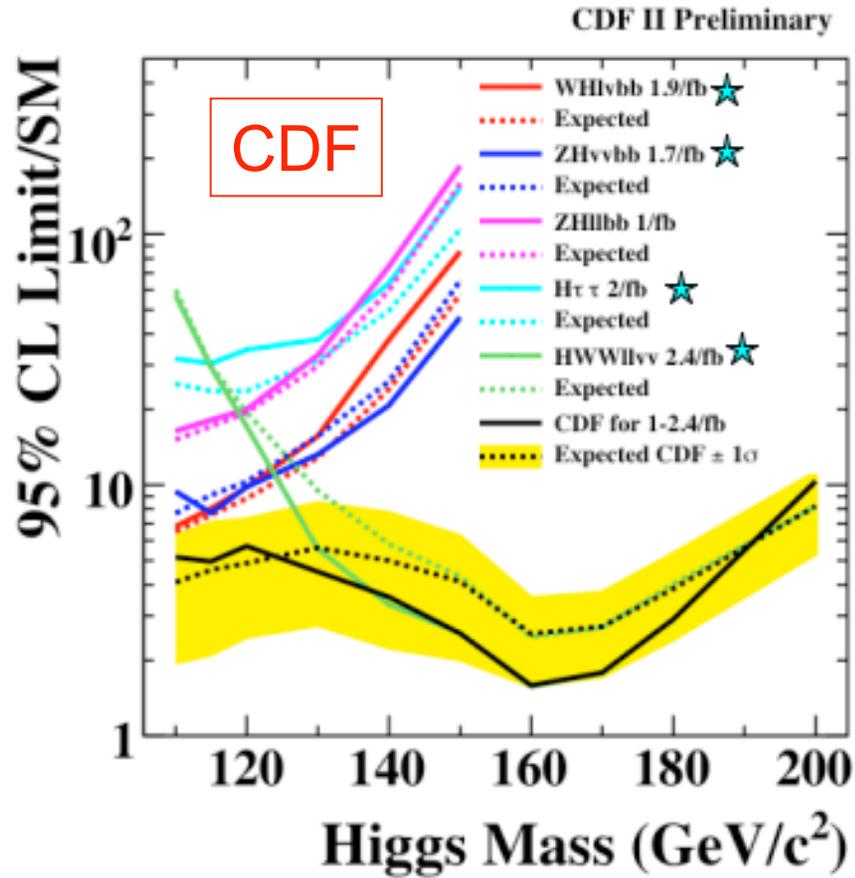


- CDF has new M_t results (★) in all three channels
 - $\Delta M_t = 1.9 \text{ GeV}/c^2$ (1.1%)
 - Working to improve understanding of dominant systematics

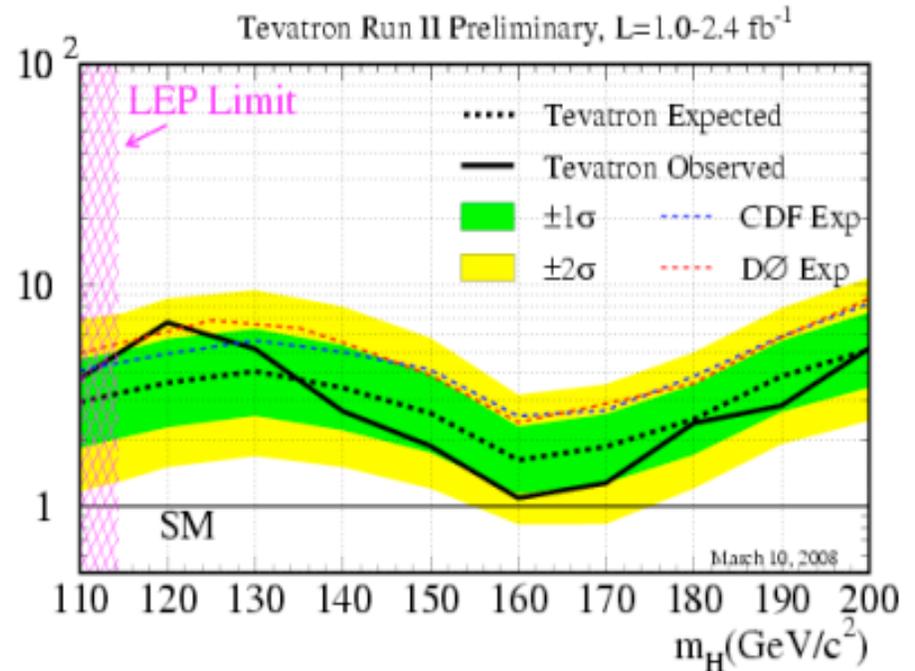




Physics: SM Higgs



Tevatron combined





Running in 2010?



- The Tevatron is currently the highest energy collider in the world

The Panel recommends continuing support for the operation of the Tevatron collider for the next one or two years to exploit its potential for discoveries.

C. Baltay: “Report from P5” - June 5, 2008



Needs and Personnel in 2010



- Called every CDF institution in Feb-2008
 - Revisited FY09 and discussed FY10 commitments

FTE	2009	2010
Needed (ops+offline+Calibrations)	95	~85
Available	253	196

- In FY09 and FY10, we have ample personnel to collect and analyze the data
 - Note: FY09 personnel +=17 FTE relative to 2007 survey

D. Glenzinski - Report to Fermilab PAC - March 28, 2008



- **Missioni Estero**

	<i>Assegnati</i>	<i>Spesi</i>	<i>Sblocco</i>
<i>BO</i>	52.5	32.0	20.0
<i>LNF</i>	56.5	36.0	29.0
<i>PD</i>	65.0	28.0	18.0
<i>PI</i>	227.0	152.0	84.0
<i>PV</i>	6.0	4.0	2.0
<i>RM1</i>	36.5	12.0	10.0
<i>TN</i>	12.0	6.0	2.0
<i>TS</i>	40.5	15.7	2.0
<i>UD</i>	28.5	10.0	10.0
Totale	524.5	295.7	177.0

- Variazione FTE rispetto a Settembre: PI: +2 ; PD: +1
- **Costruzione Apparati - Mezzanine GigaFitter**
 - PI: 15 KE; PD: 5 KE