

Introductory Remarks: *High precision measurement of the W-boson mass with the CDF II detector*

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Fermilab Joint Experimental - Theoretical Seminar, April 8, 2022



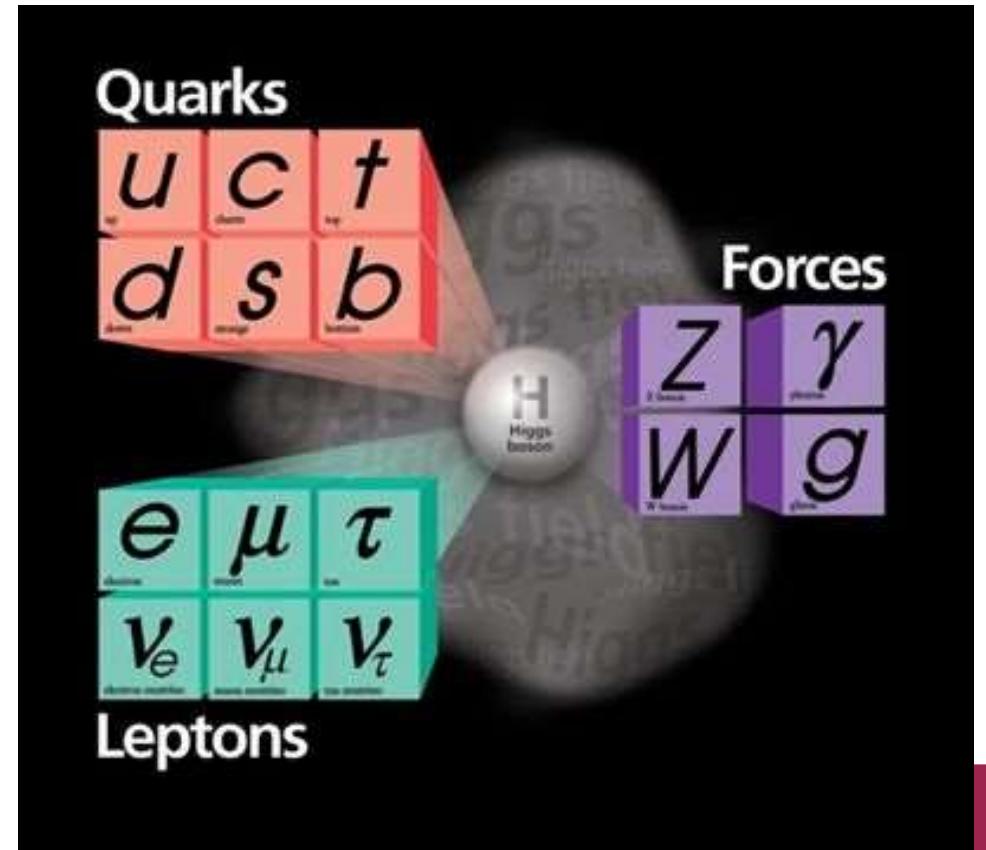
High precision measurement of the W-boson mass with the CDF II detector



Welcome

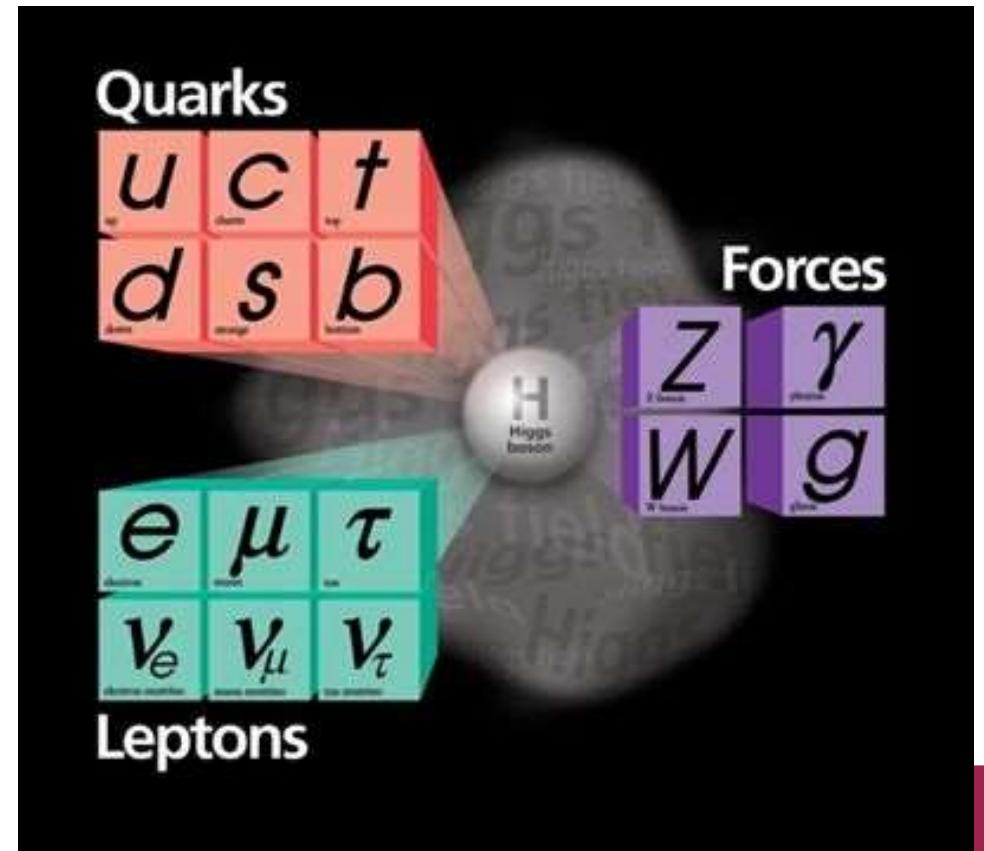
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For Non-Experts

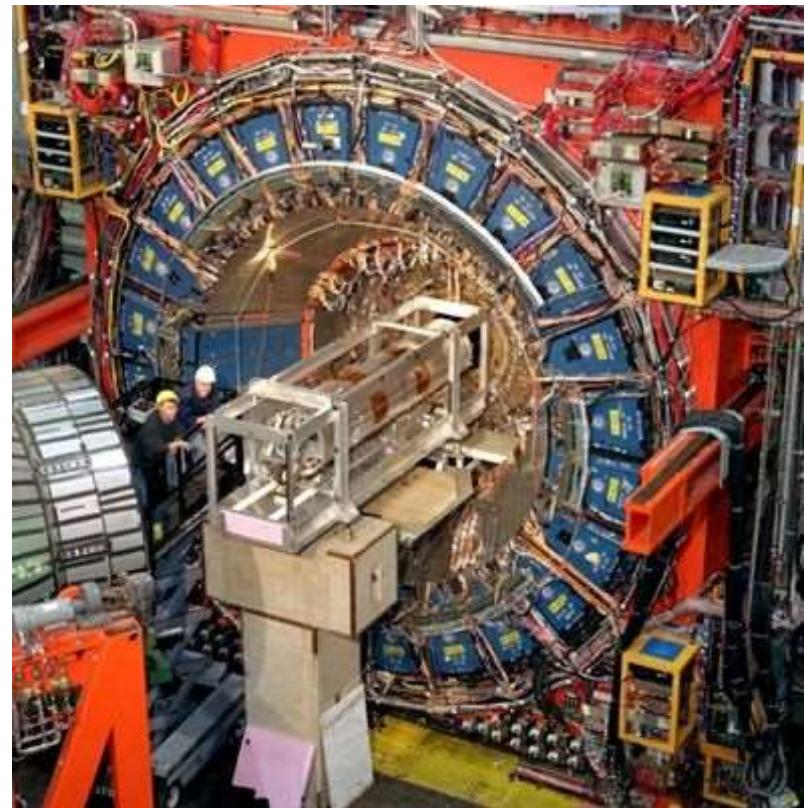
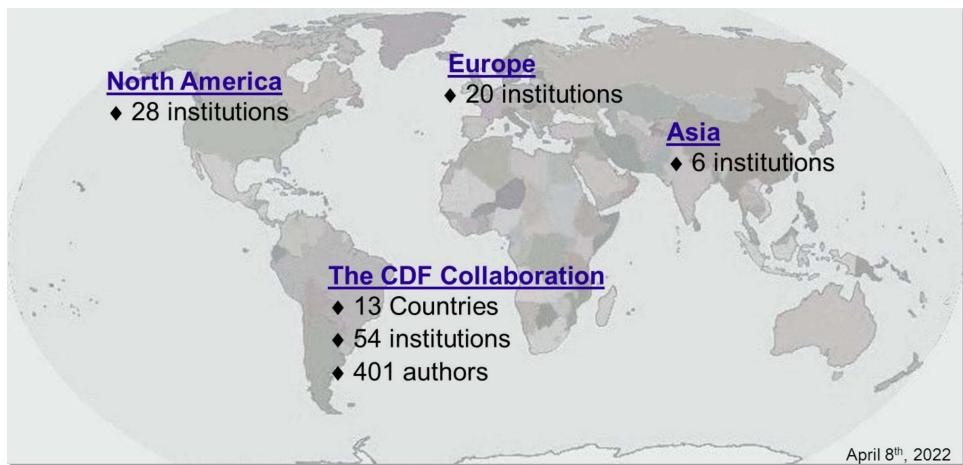


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For Experts



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Background:

- About CDF
- <https://cdf.fnal.gov/>

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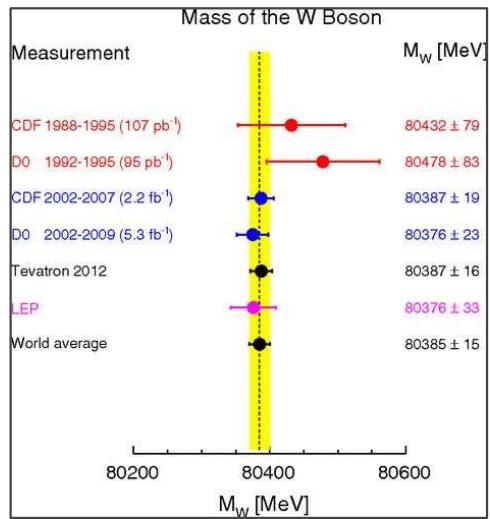


TABLE II. Uncertainties for the final combined result on M_W .

Source	Uncertainty (MeV)
Lepton energy scale and resolution	7
Recoil energy scale and resolution	6
Lepton removal	2
Backgrounds	3
$p_T(W)$ model	5
Parton distributions	10
QED radiation	4
W-boson statistics	12
Total	19

Background:

- Science Strategy

Background: - People Strategy

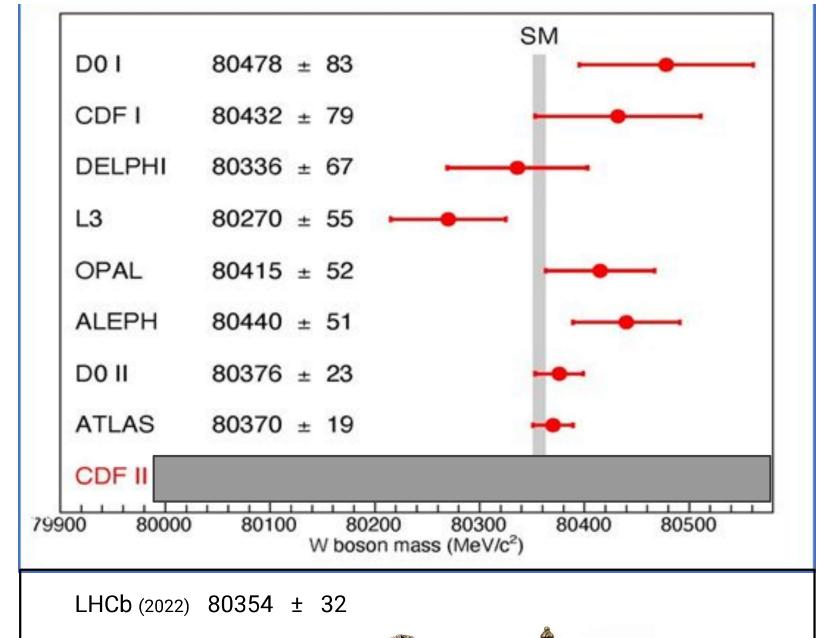


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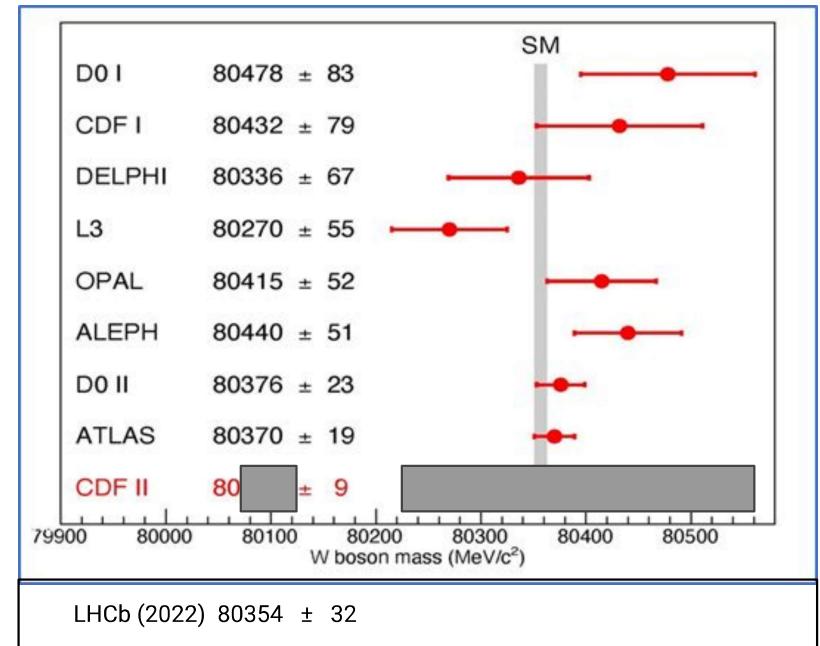
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Moving Towards Results: Blinding Procedure



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Where We Stand Today



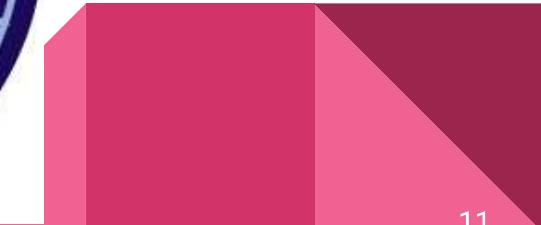
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- “*Extraordinary Claims Require Extraordinary Evidence*” (Sagan)
- We need “*Organized Skepticism*” (Merton)



Presentation



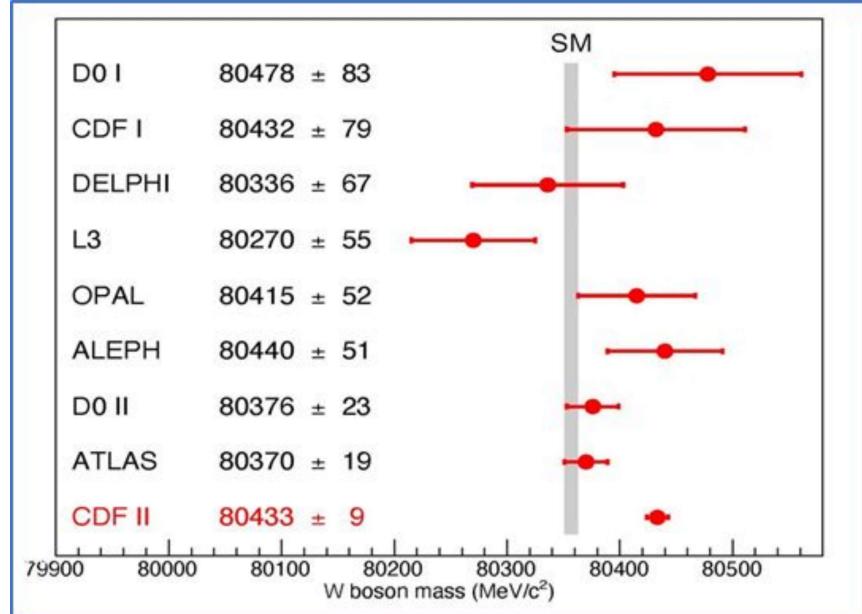
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Fly the W



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