Measurement of the Top Quark Mass at CDF

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for the CDF Collaboration

Overview

- Method
  - General Technique
  - Jet Corrections
- Results
  - Event Selection
  - Results with No B-tag required
  - Use of B-tags
  - Results with B-tag
  - Search for the Hadronic W decay
- Systematics
- Summary and Prospects

General Technique

Hypothesis is:

$$
\begin{aligned}
P\bar{P} &\rightarrow t\bar{t}\,X \\
&\rightarrow W^{+}b\,W^{-}\bar{b} \\
&\rightarrow l^{+}\nu b\ jj\bar{b}
\end{aligned}
$$

- 13 4-momenta involved (52 variables)
- Using known masses and Energy-Momentum Conservation gives a 2C Fit.
- 12 Jet-quark assignments and 2 solutions for $P_Z(\nu)$ consistent with constraints. Use One solution with the Lowest χ^2
- Require Fit $\chi^2 < 10.0$