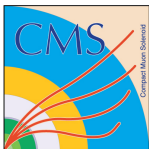


Measuring the Top Mass at CMS in the Lepton+Jets Final State

Enrique Palencia

CERN

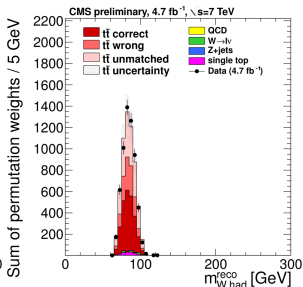
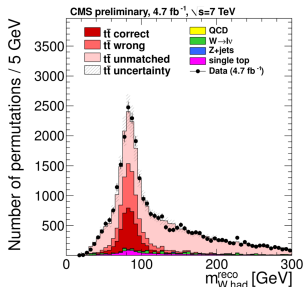
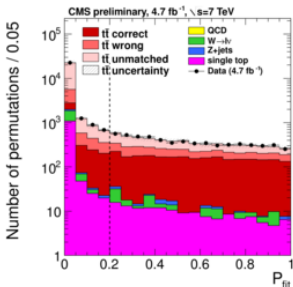
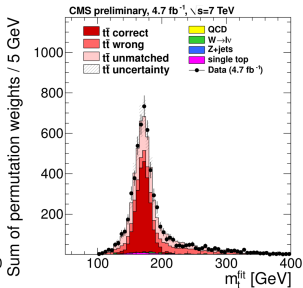
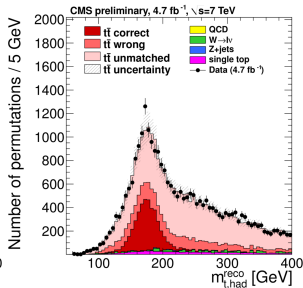
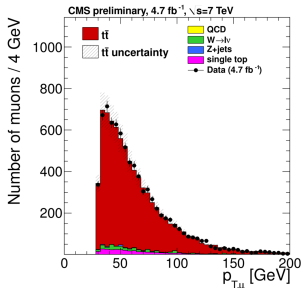


Collider Cross Talk

March 22, 2012

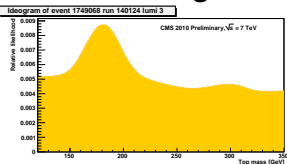


Kinematics

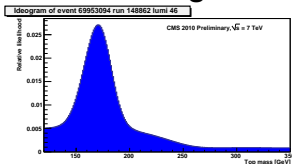


Ideogram Illustration

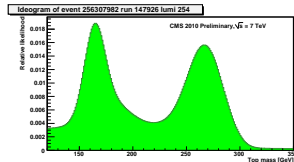
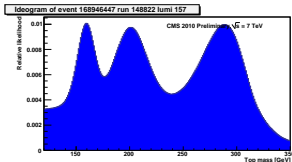
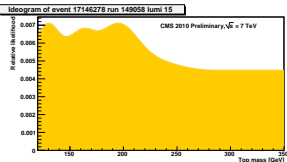
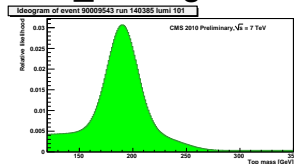
0 *b*-tags



1 *b*-tag

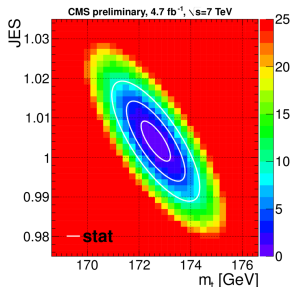


≥ 2 *b*-tags



- Top (bottom): Ideograms which have one dominant (multiple) solution
- Events with 0 (2) *b*-tags have a significant probability to be background (signal), reflected in the sizable (smallness) mass-independent background term

Results



$$m_t = 172.64 \pm 0.57 \text{ (stat+JES)} \pm 1.18 \text{ (syst)} \text{ GeV}$$

$$\text{JES} = 1.004 \pm 0.005 \text{ (stat)} \pm 0.012 \text{ (syst)}$$

	δ_{m_t} (GeV)	δ_{JES}
Calibration	0.15	0.001
<i>b</i> -tagging	0.17	0.002
<i>b</i> -JES	0.66	0.000
<i>p_T</i> - and η -dependent JES	0.23	0.003
Jet energy resolution	0.21	0.003
Missing transverse energy	0.08	0.001
Factorization scale	0.76	0.007
ME-PS matching threshold	0.25	0.007
Non- <i>t</i> \bar{t} background	0.09	0.001
Pile-up	0.38	0.005
PDF	0.05	0.001
Total	1.18	0.012

