

PROYECTO TIER2-ATLAS / GRID Y E-CIENCIA

Jose Llanes – David Vallés

¿POR QUÉ GRID?



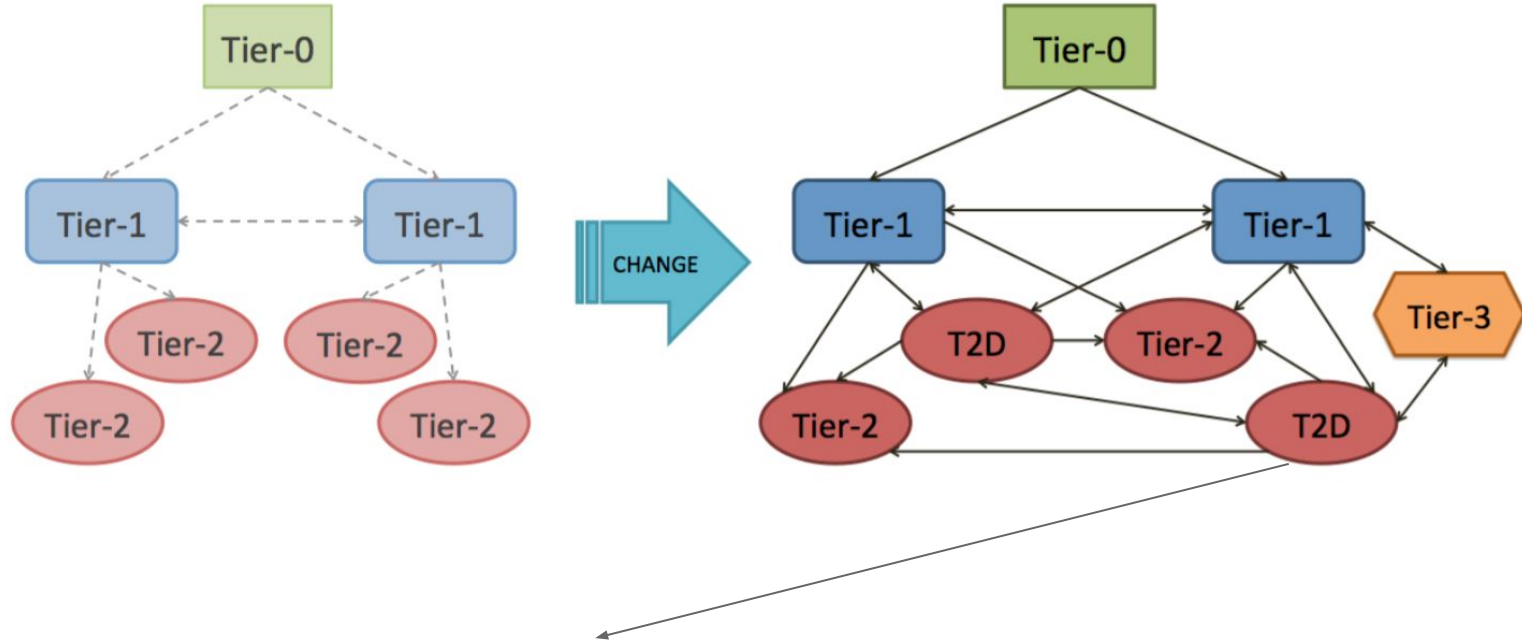
Supercomputador

VS.



Granja de ordenadores

FUNCIONAMIENTO



Proyecto Tier2-Español ATLAS —————> **Site IFIC**

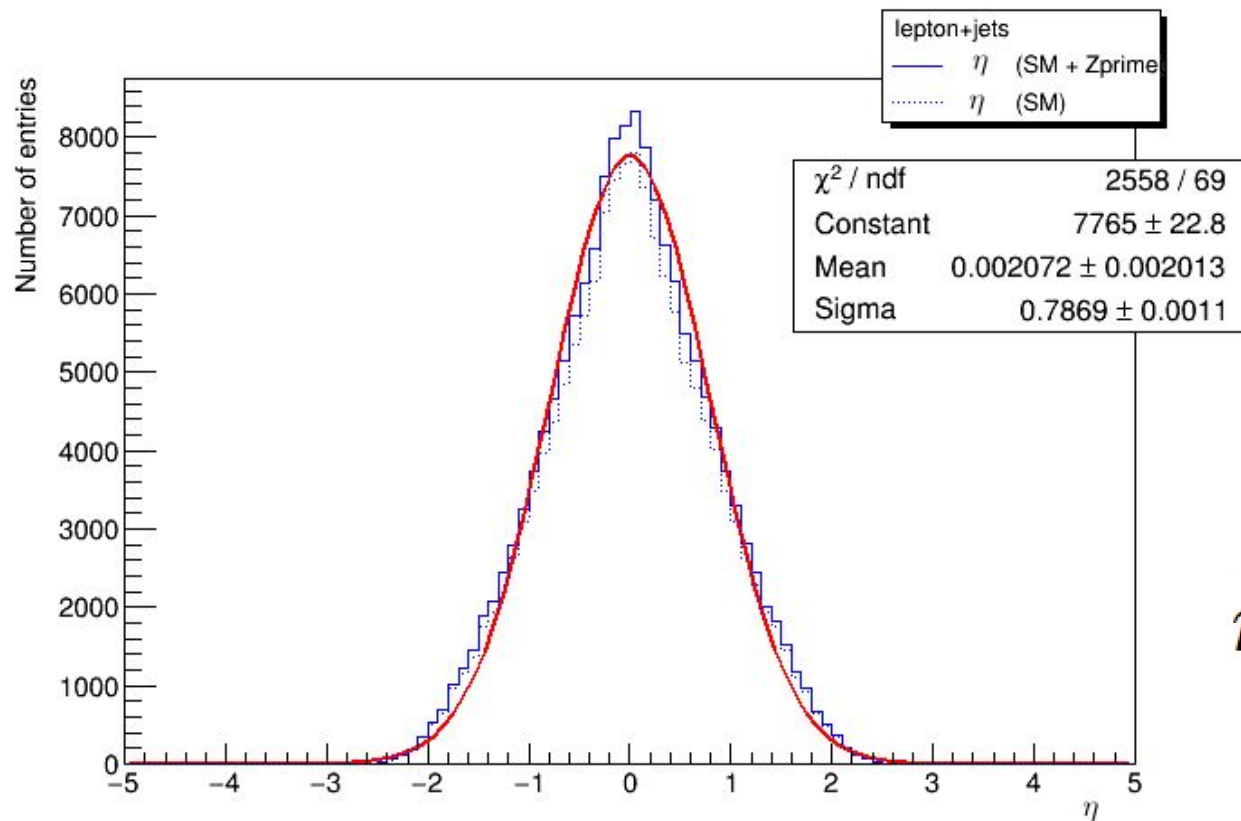
“IT WOULD HAVE BEEN IMPOSSIBLE TO RELEASE PHYSICS
RESULTS SO QUICKLY WITHOUT THE OUTSTANDING
PERFORMANCE OF GRID”

Fabiola Gianotti (CERN), 4 Julio 2012

APLICACIONES (MÁS ALLÁ DE ATLAS)

- Astropartículas
- Física teórica
- Física médica
- ...

PSEUDO-RAPIDITY



Rapidity:

$$y = \frac{1}{2} \ln \left(\frac{E + p_L}{E - p_L} \right)$$

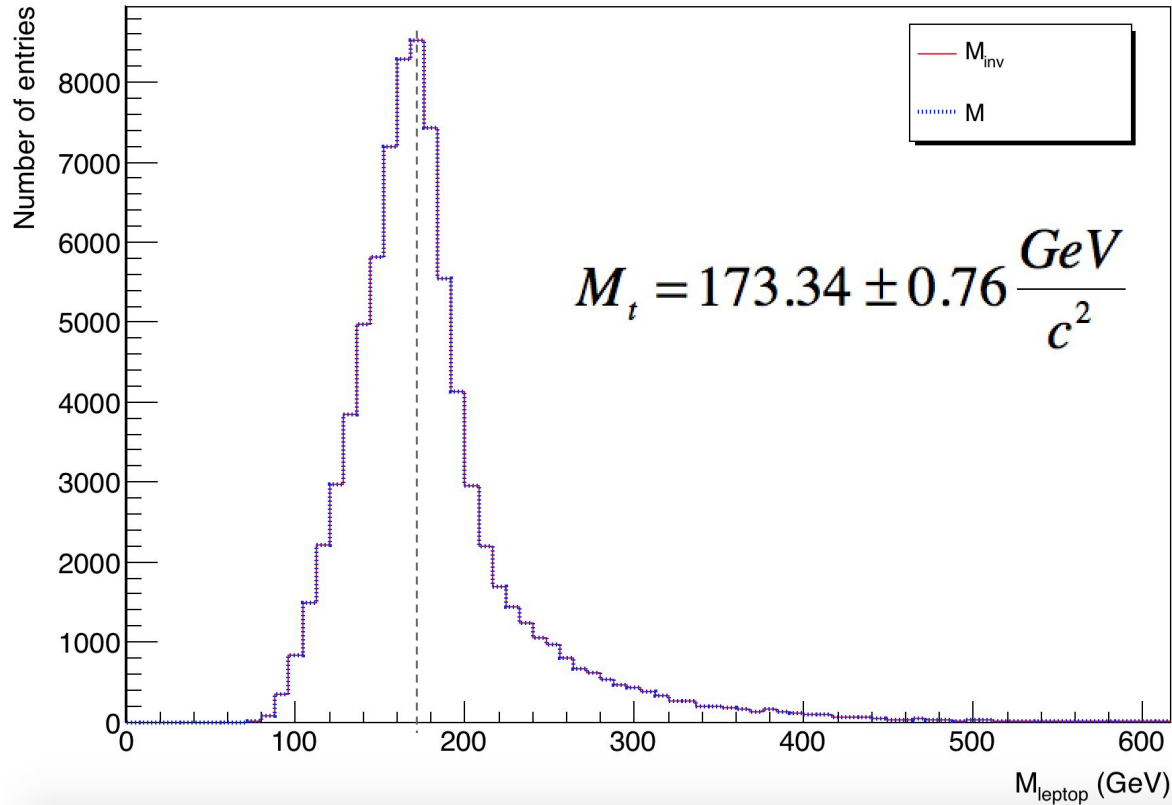


Pseudo-rapidity:

$$\eta = -\ln \left[\operatorname{tg} \left(\frac{\vartheta}{2} \right) \right]$$

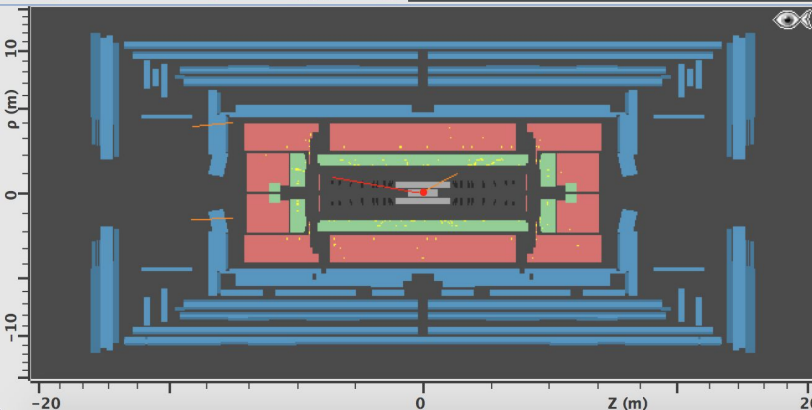
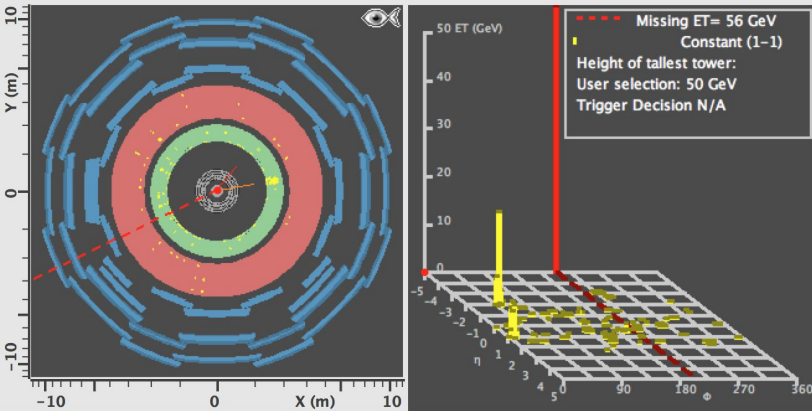
MASA INVARIANTE DEL QUARK TOP

Obtención de la masa invariante



MASTERCLASS ATLAS

ATLAS 2011-09-22 03:59:38 UTC source:12A_08_189610_10183505_343 Atlantis



Total	9	4	5	2	29	1
$\Sigma W^+ , \Sigma W^- $	$ W^+ $	14	$ W^- $	6	$ W^+ + W^- $	20
Ratio	$ W^+ / W^- $			2.33	$\pm$	1.14

Total	28	13	25	14	117	3
$\Sigma W^+ , \Sigma W^- $	$ W^+ $	53	$ W^- $	27	$ W^+ + W^- $	80
Ratio	$ W^+ / W^- $			1.96	$\pm$	0.46

$$H \rightarrow W^+ W^- \rightarrow \ell^+ + \nu_\ell + \ell^- + \bar{\nu}_\ell$$

$$r \equiv \frac{N(W^+)}{N(W^-)} \quad \delta(r) = (r+1) \sqrt{\frac{r}{N}} \quad 8$$

