????

$ppxyz\theta\eta$

$$\eta = -ln\left[tan\left(\theta/2\right)\right]$$

??

$^2_r10100150\mu^2\mu20r55\mu r55$**??**

$\mu\mu\mu\mu\mu\mu$

$^4_\mu\mu$

$_4X_0 = 0.8980\%$

$2222^20|\eta|1.479$

$28.628.6^21.479|\eta|3.0$

??

$_layout.png Layout of the electromagnetic calorimeter (ECAL) indicating the configuration of the barrel (EB) and endcap (EE) cr$

$_layout).$

$_layout.png Layout of the hadronic calorimeter (HCAL) indicating the configuration of the barrel (HB) and endcap (HE) compone$

p_T/p

$^T\overline{0.3eB}$

(2)

$p_T eB p_T$

??

??

$r - \phi z r - \phi$

μ

$\phi\mu$

$^{22441}0_6$

$pp\approx$

μ

pp

p_T

$\eta\phi$

$seed$

$stand\text{-}alone\ muons global\ muon global\ muon\ reconstruction\ (outside\text{-}in) tracker\ muon\ reconstruction\ (inside\text{-}out)$

$p_T 0.5 p 2.5 x, y$

$p5$

$clustering\ algorithms$

not

$\pi^0 anti\text{-}k_T R = 0.5$