

Jets

Rivet 3.1.10, 2.9M events

mcplots.cern.ch [arXiv:1306.3436]

2

0.5

Figure 1 consists of two panels. The top panel is a plot of the distribution $\frac{dN}{d\ln(p_T^D)^2 \lambda_0^2}$ versus $(p_T^D)^2 \lambda_0^2$ (CMS jet substructure). The x-axis ranges from 0 to 1, and the y-axis ranges from 0 to 10000. The plot compares the CMS data (black squares) with the Pythia 8.308 default model (blue line with triangles). The CMS data shows a sharp peak at $(p_T^D)^2 \lambda_0^2 \approx 0.05$, while the Pythia 8.308 default model shows a broader peak at $(p_T^D)^2 \lambda_0^2 \approx 0.1$. The bottom panel shows the ratio of the Pythia 8.308 default model to the CMS model, $\frac{dN_{\text{Pythia}}}{dN_{\text{CMS}}}$, versus $(p_T^D)^2 \lambda_0^2$. The x-axis ranges from 0 to 1, and the y-axis ranges from 0.5 to 2. The ratio is shown as a green band with a black line, indicating the uncertainty. The ratio is approximately 1.5 for $(p_T^D)^2 \lambda_0^2 < 0.1$ and decreases to approximately 1.0 for $(p_T^D)^2 \lambda_0^2 > 0.1$.