

Jets

	Rivet 3.1.10, $\geq 400k$ events
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mcplots.cern.ch [arXiv:1306.3436]

2

0.5

width

 $\mathbf{d}^N$

4

Ratio to CMS

Figure 1 consists of two panels. The top panel is a plot of the distribution of the width of the first jet substructure, λ_1 , in units of the transverse momentum of the first jet, $p_{T,1}$. The x-axis is labeled 'width' and ranges from 0 to 1. The y-axis is labeled ' $\frac{1}{N} \frac{dN}{d\lambda_1} \frac{d\lambda_1}{dp_{T,1}}$ ' and ranges from 0 to 1000. The plot shows three data series: CMS (black squares), Herwig 7.2.1 default (green dashed line with open squares), and Pythia 8.183 default (blue solid line with solid triangles). The CMS data points are very low, near zero. The Herwig and Pythia models show a peak around $\lambda_1 \approx 0.15$ and then decay. The Pythia model is slightly higher than the Herwig model at the peak. The bottom panel is a plot of the ratio of the Monte Carlo models to the CMS data. The x-axis is labeled 'width' and ranges from 0 to 1. The y-axis is labeled 'Ratio to CMS' and ranges from 0.5 to 2. The plot shows two shaded regions: a green region for the Herwig 7.2.1 default model and a yellow region for the Pythia 8.183 default model. Both regions are centered around a ratio of 1.0, with the Pythia model showing a slightly higher ratio at larger widths.