

Images

February 16, 2026

The mass of the Z boson was found to be $91.141 \pm 0.009 \pm 0.003$ GeV where the first error is statistical and the second systematic
The width of the Z boson was found to be $2.005 \pm 0.025 \pm 0.001$ GeV where the first error is statistical and the second systematic
The correlation coefficient was 0.065

	Mass	Width
Calibration error	-0.00293	0.00004
Smearing error	-0.00001	0.00134
$\Upsilon(1S)$ mass error	0.0001	0.0000

Table 1: Z Systematic error on mass and width

	Mass	Width
Values	91.14133	2.00451
Statistical error	0.00875	0.02511

Table 2: Z Mass and width results with statistical error

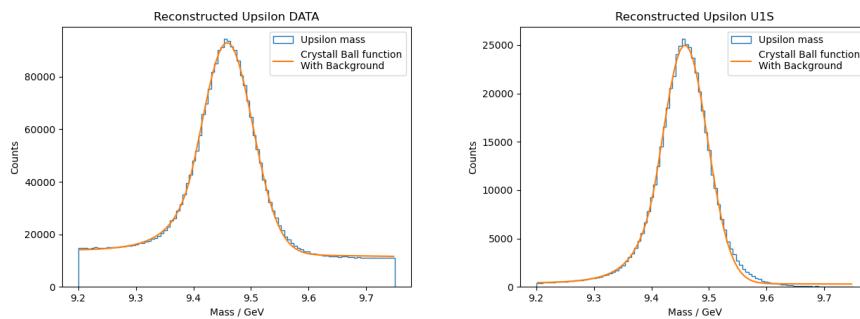


Figure 1:

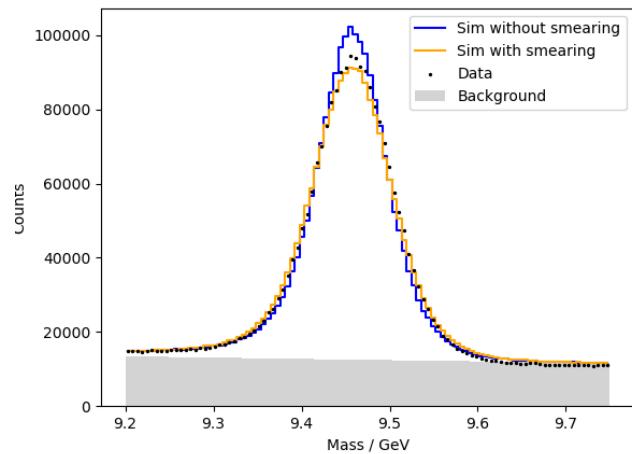


Figure 2:

χ^2	ndf
406.14	48

Table 3: minimum χ^2 and number of degrees of freedom

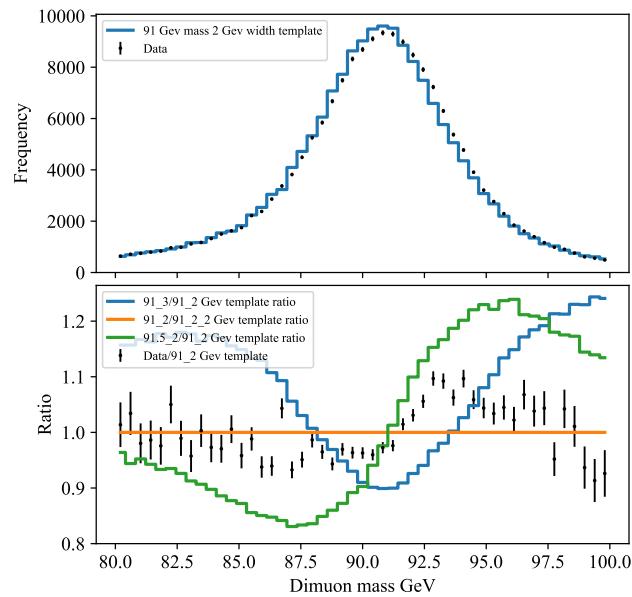


Figure 3:

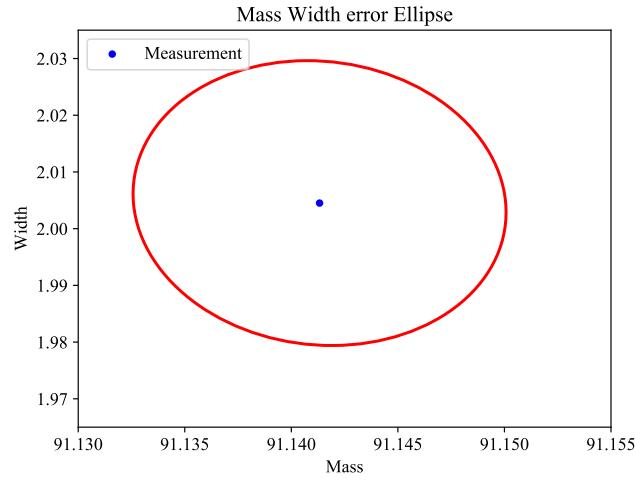


Figure 4:

When separating the positive and negative dipole data:

Measurement	Positive dipole	Negative dipole	Significance
Mass [GeV]	91.10101 ± 0.01	91.16511 ± 0.01	3.54713
Width [GeV]	1.93766 ± 0.03	2.06095 ± 0.03	2.64447
χ^2	164.53	319.35	N/A
ndf	48	48	N/A

Table 4: Reults for positive and negative dipoles

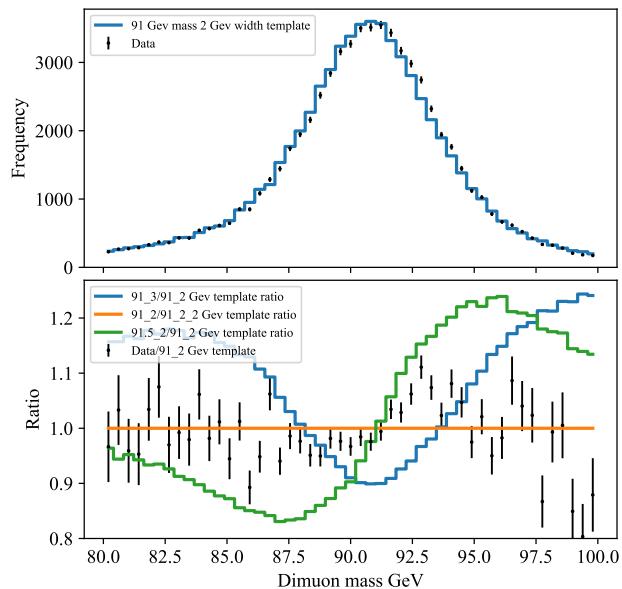


Figure 5: Positive dipole

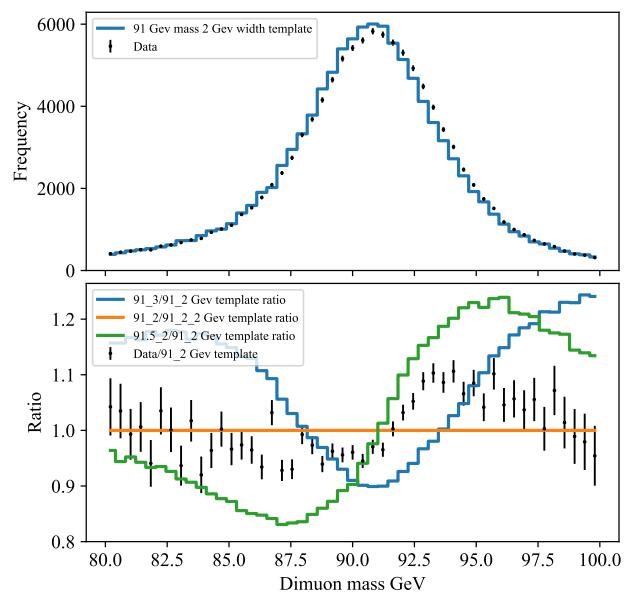


Figure 6: negative dipole