| Quantity | Value | Standard Model |
|---|---|---|
| $M_Z$ (GeV) | $91.187 \pm 0.007$ | input |
| $\Gamma_Z$ (GeV) | $2.490 \pm 0.007$ | $2.493 \pm 0.001 \pm 0.004$ |
| $R$ | $20.76 \pm 0.05$ | $20.74 \pm 0.01 \pm 0.005$ |
| $\sigma_{\rm had}(nb)$ | $41.55 \pm 0.14$ | $41.48 \pm 0.01 \pm 0.01$ |
| $R_b$ | $0.2210 \pm 0.0029$ | $0.2157 \pm 0 \pm 0.0004$ |
| $R_c$ | $0.171 \pm 0.020$ | $0.171 \pm 0 \pm 0$ |
| $A_{FB}^{(0,\ell)}$ | $0.0159 \pm 0.0018$ | $0.0151 \pm 0.0005 \pm 0.0010$ |
| $A_\tau^0(P_\tau)$ | $0.141 \pm 0.021$ | $0.142 \pm 0.003 \pm 0.005$ |
| $A_e^0(P_\tau)$ | $0.127 \pm 0.025$ | $0.142 \pm 0.003 \pm 0.005$ |
| $A_{FB}^{(0,b)}$ | $0.107 \pm 0.013$ | $0.0995 \pm 0.002 \pm 0.003$ |
| $A_{FB}^{(0,c)}$ | $0.058 \pm 0.022$ | $0.071 \pm 0.002 \pm 0.003$ |
| $A_{LR}^0$ | $0.1637 \pm 0.0075$ | $0.142 \pm 0.003 \pm 0.005$ |
| $\overline{s}_\ell^2(A_{FB}^{(0,q)})$ | $0.2320 \pm 0.0016$ | $0.2322 \pm 0.0003 \pm 0.0006$ |
| $\Gamma(\ell\overline{\ell})$ (MeV) | $83.84 \pm 0.27$ | $83.90 \pm 0.02 \pm 0.16$ |
| $\Gamma$(had) (MeV) | $1740.7 \pm 5.9$ | $1739.8 \pm 1 \pm 3$ |
| $\Gamma$(inv) (MeV) | $498.2 \pm 4.2$ | $501.3 \pm 0.4 \pm 0.8$ |
| $M_W$ (GeV) | $80.22 \pm 0.26$ | $80.29 \pm 0.02 \pm 0.11$ |
| $M_W/M_Z$ | $0.8798 \pm 0.0028$ | $0.8805 \pm 0.0002 \pm 0.001$ |
| $Q_W$ | $-71.04 \pm 1.58 \pm 0.88$ | $-72.92 \pm 0.07 \pm 0.07$ |
| $s_W^2 = 1 - \dfrac{M_W^2}{M_Z^2}$ | $0.2218 \pm 0.0059$<br>$0.2260 \pm 0.0048$ | $0.2247 \pm 0.0003 \pm 0.0021$ |
| $g_A^{\nu e}$ | $-0.503 \pm 0.018$ | $-0.506 \pm 0 \pm 0.001$ |
| $g_V^{\nu e}$ | $-0.025 \pm 0.019$ | $-0.037 \pm 0 \pm 0.001$ |

## 26.5. Deviations from the Standard Model

The $Z$ pole, $W$ mass, and neutral-current data can be used to search for and set limits on deviations from the Standard Model. See the full edition of this *Review* for further details and all references.

Further discussion and all references may be found in the full *Review of Particle Properties;* the equation and reference numbering corresponds to that version.