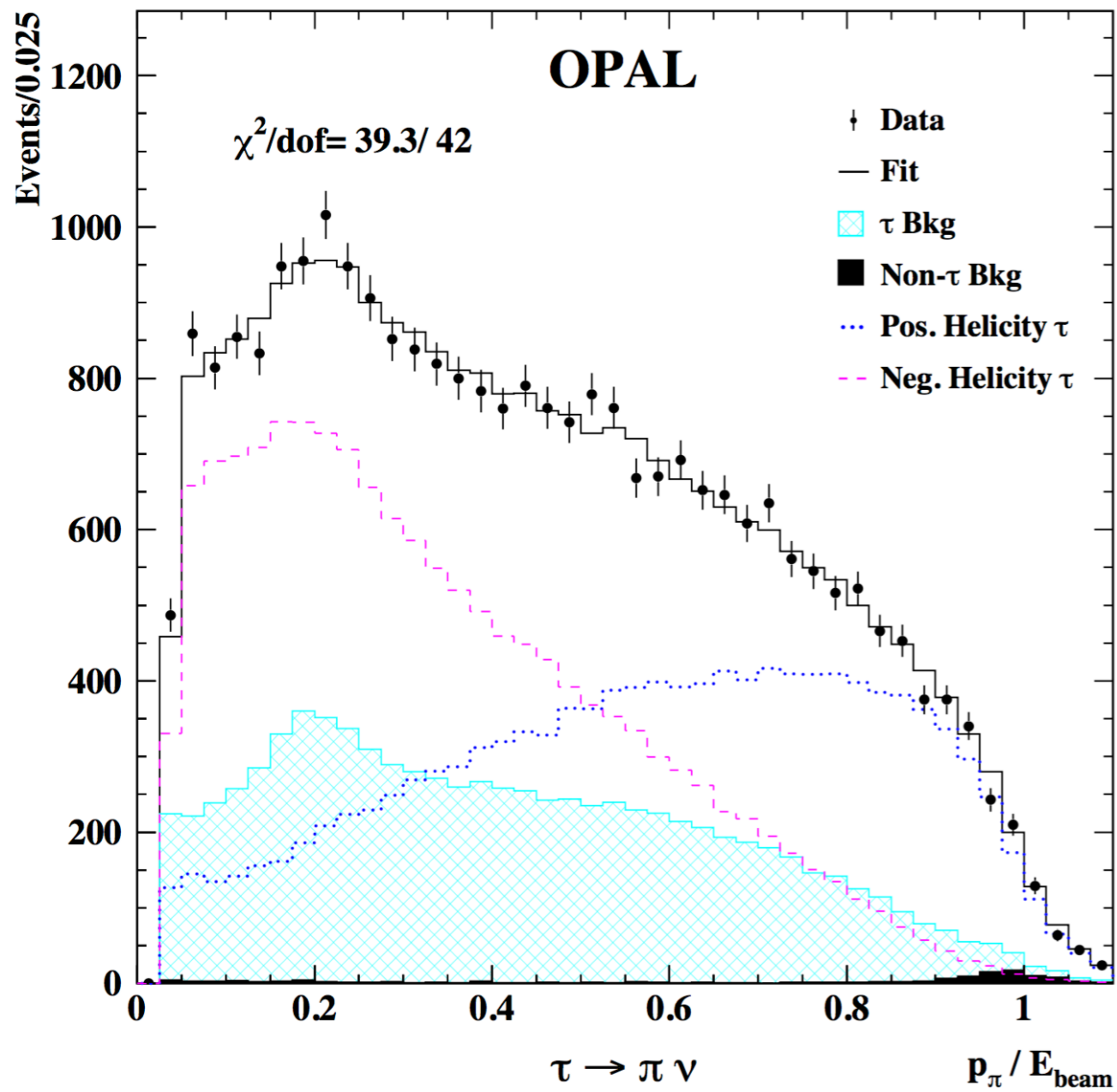
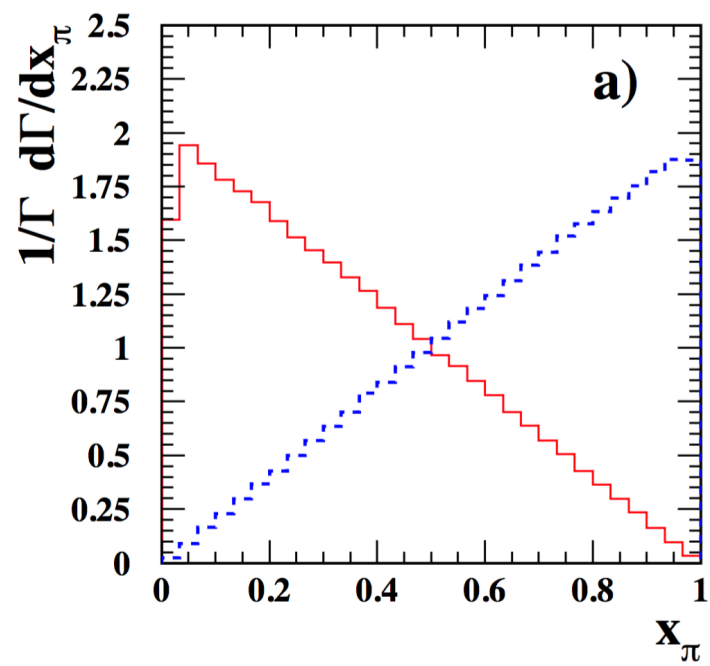
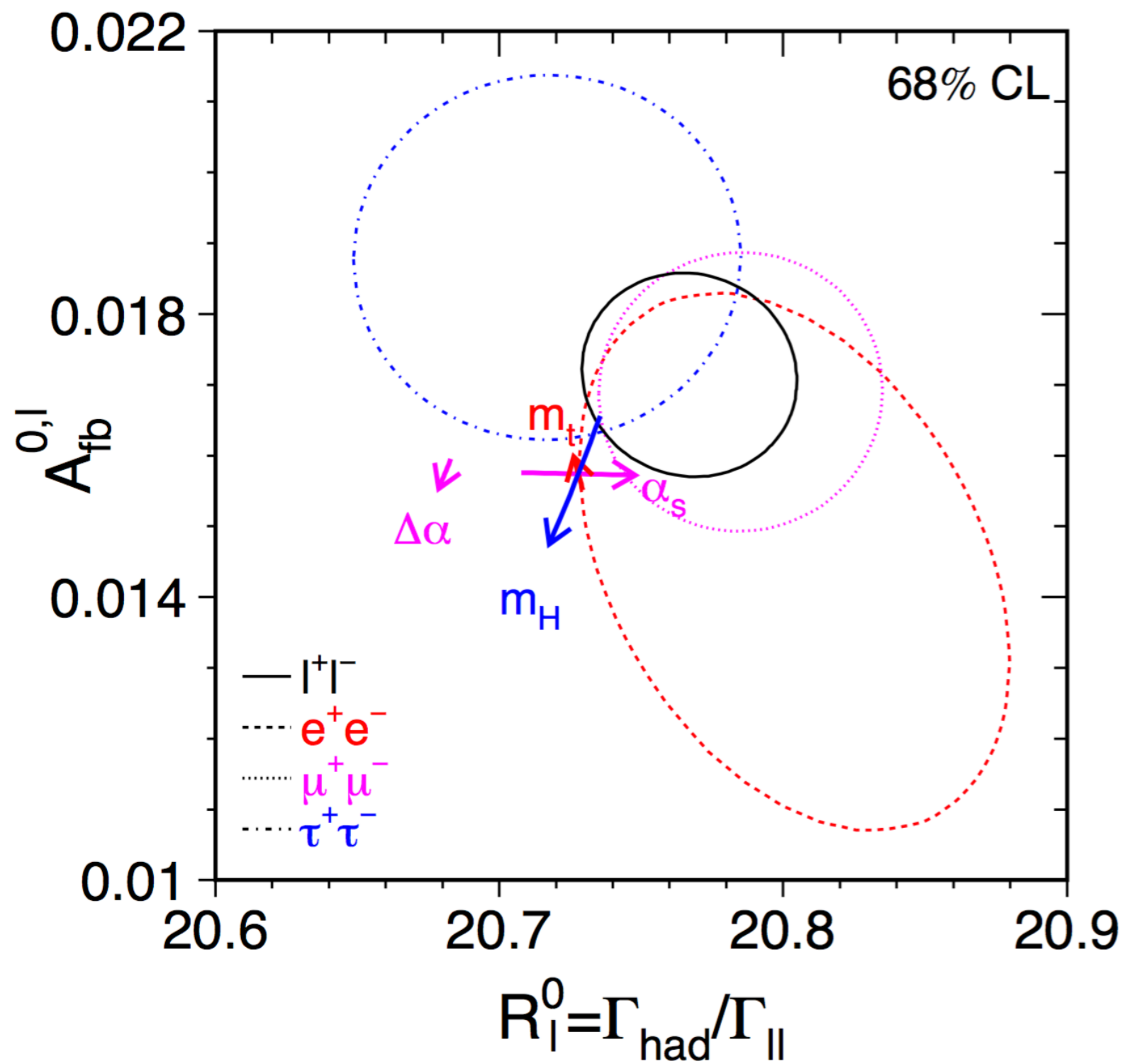
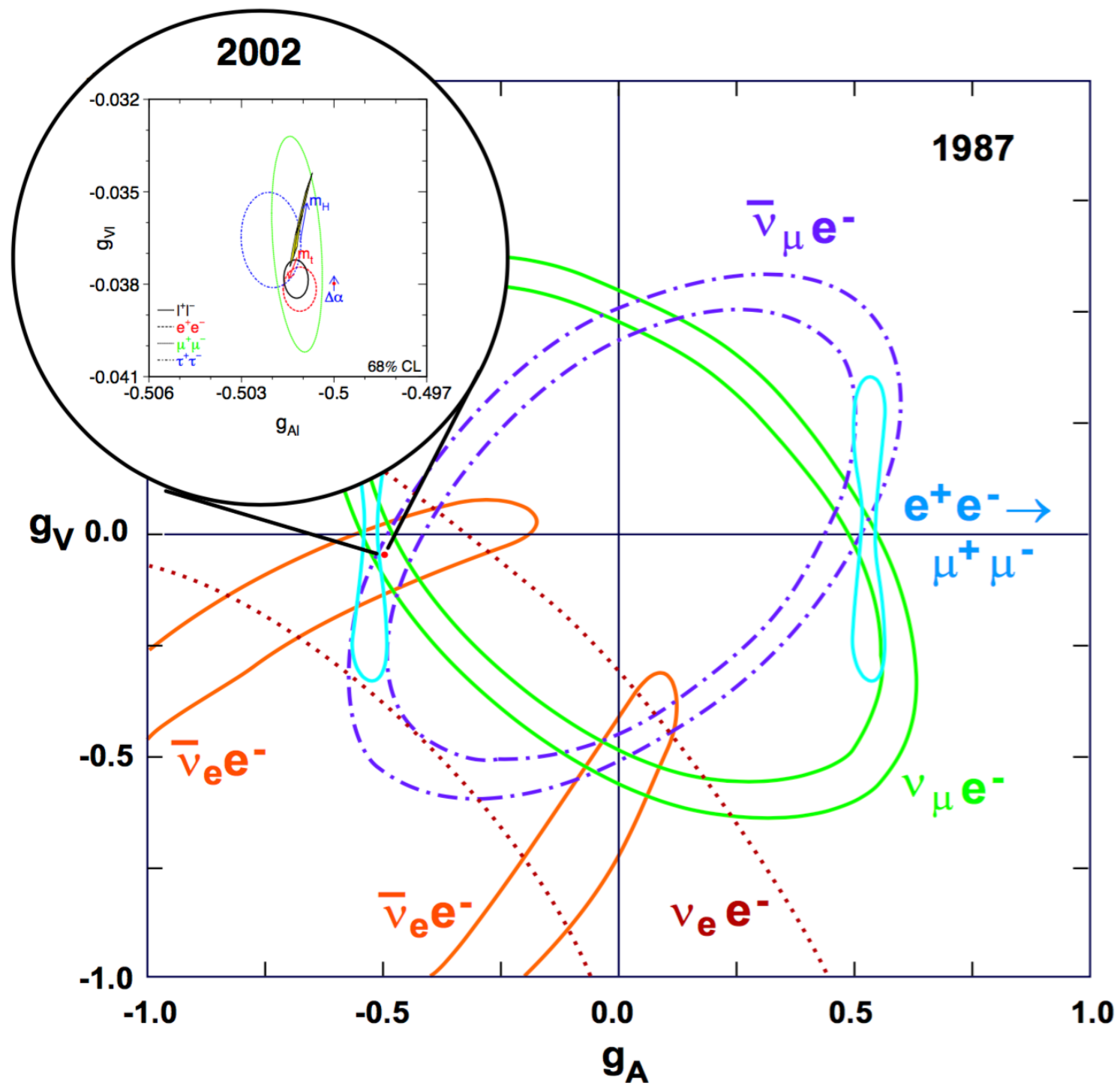


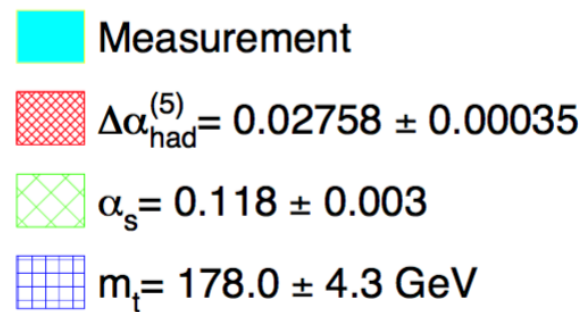
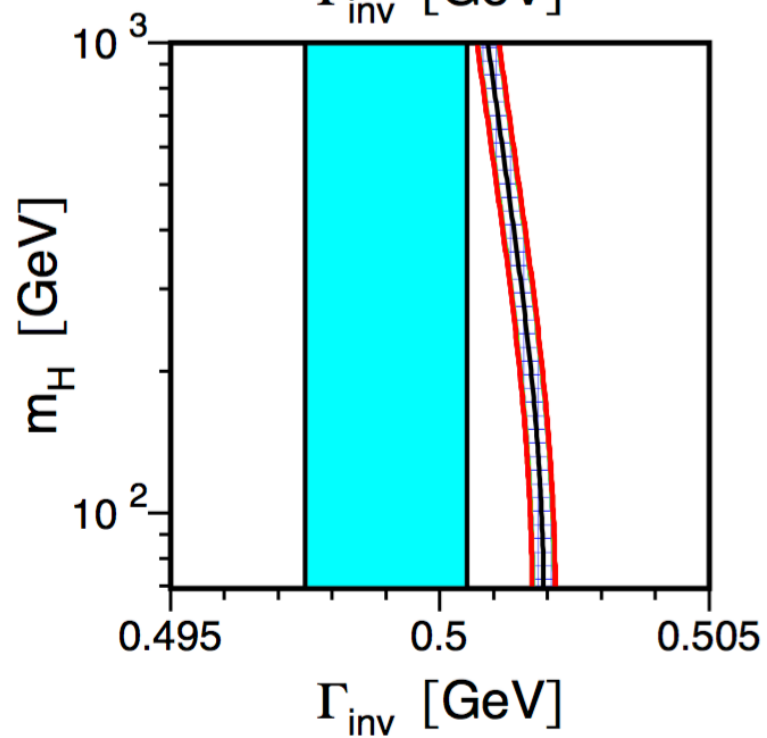
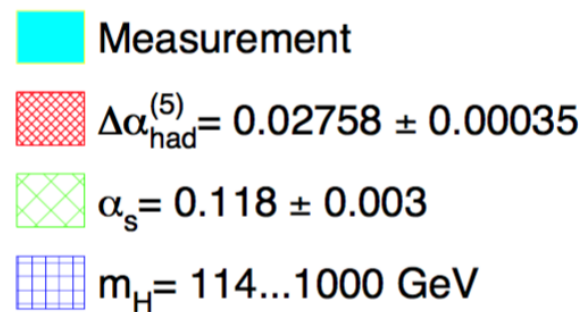
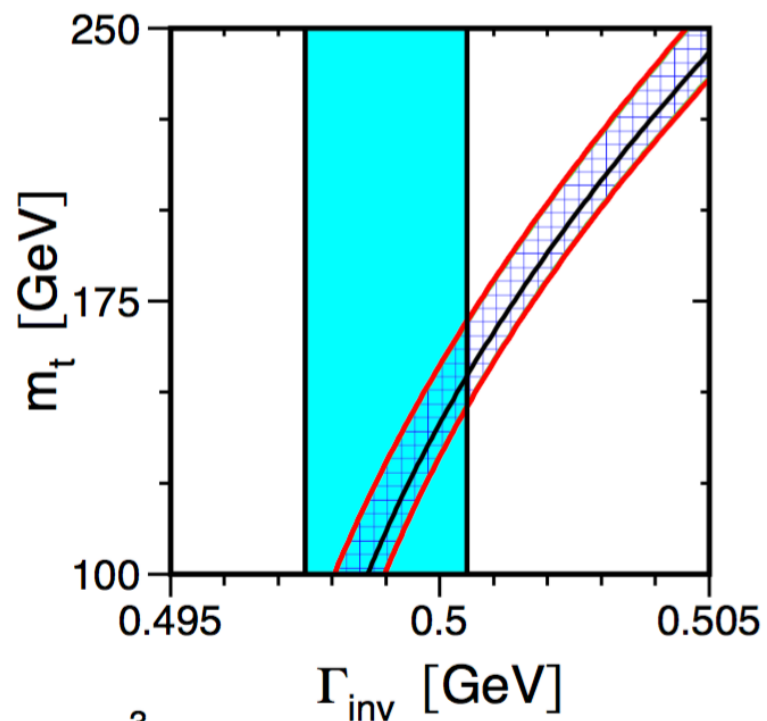


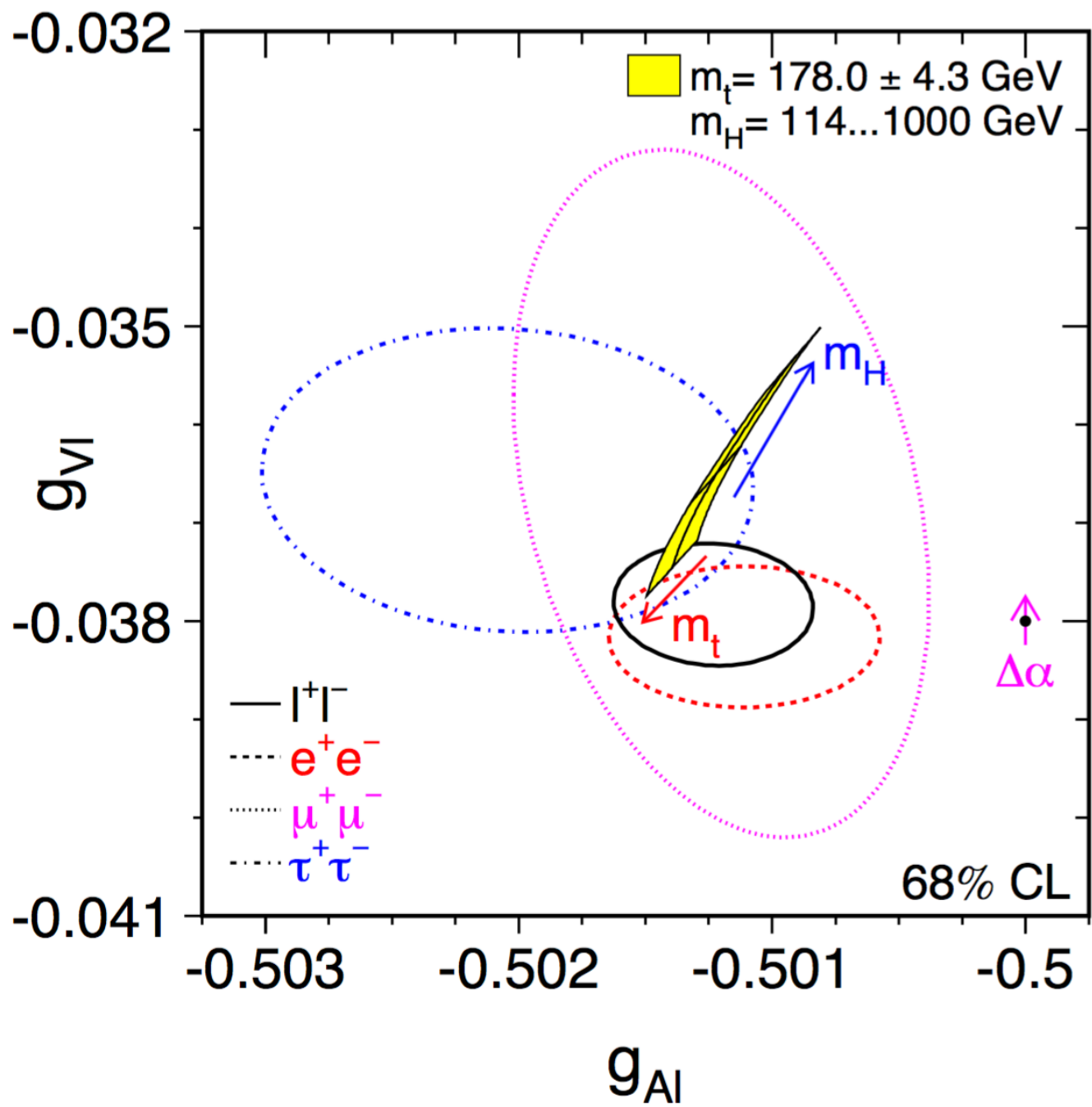


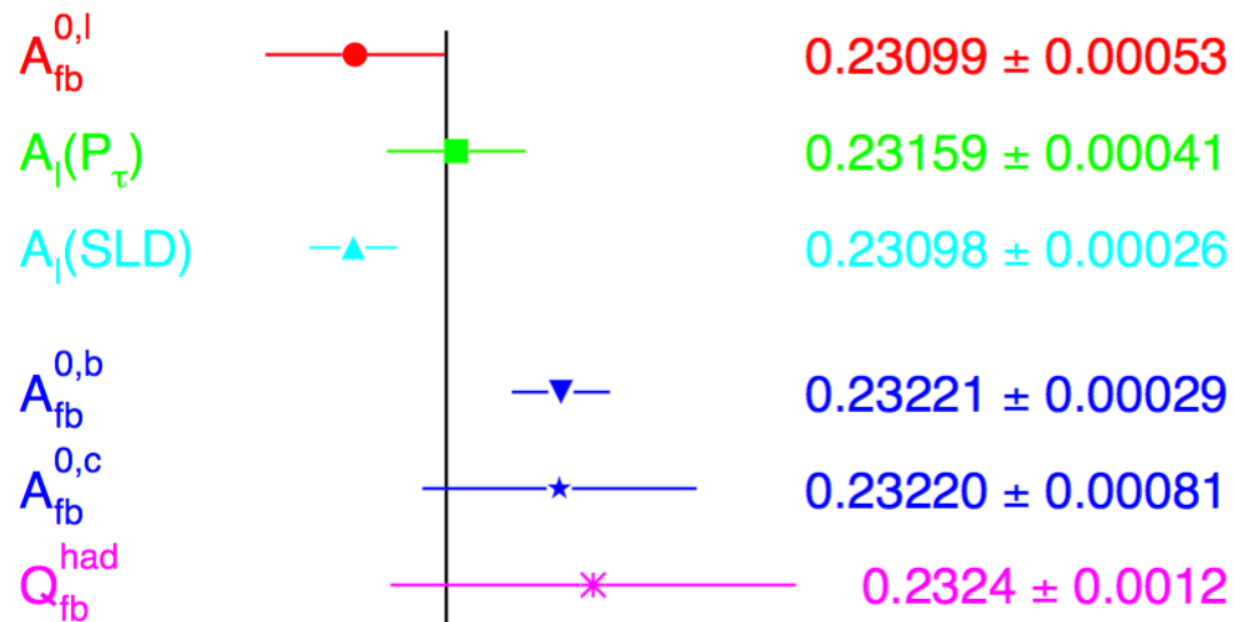


| Parameter<br>$\Gamma_{f\bar{f}}$ | Average<br>[MeV] |             | Correlations          |                     |                     |                     |                       |                     |                       |  |
|----------------------------------|------------------|-------------|-----------------------|---------------------|---------------------|---------------------|-----------------------|---------------------|-----------------------|--|
| Without Lepton Universality      |                  |             |                       |                     |                     |                     |                       |                     |                       |  |
|                                  |                  |             | $\Gamma_{\text{had}}$ | $\Gamma_{ee}$       | $\Gamma_{\mu\mu}$   | $\Gamma_{\tau\tau}$ | $\Gamma_{b\bar{b}}$   | $\Gamma_{c\bar{c}}$ | $\Gamma_{\text{inv}}$ |  |
| $\Gamma_{\text{had}}$            | 1745.8           | $\pm 2.7$   | 1.00                  |                     |                     |                     |                       |                     |                       |  |
| $\Gamma_{ee}$                    | 83.92            | $\pm 0.12$  | −0.29                 | 1.00                |                     |                     |                       |                     |                       |  |
| $\Gamma_{\mu\mu}$                | 83.99            | $\pm 0.18$  | 0.66                  | −0.20               | 1.00                |                     |                       |                     |                       |  |
| $\Gamma_{\tau\tau}$              | 84.08            | $\pm 0.22$  | 0.54                  | −0.17               | 0.39                | 1.00                |                       |                     |                       |  |
| $\Gamma_{b\bar{b}}$              | 377.6            | $\pm 1.3$   | 0.45                  | −0.13               | 0.29                | 0.24                | 1.00                  |                     |                       |  |
| $\Gamma_{c\bar{c}}$              | 300.5            | $\pm 5.3$   | 0.09                  | −0.02               | 0.06                | 0.05                | −0.12                 | 1.00                |                       |  |
| $\Gamma_{\text{inv}}$            | 497.4            | $\pm 2.5$   | −0.67                 | 0.78                | −0.45               | −0.40               | −0.30                 | −0.06               | 1.00                  |  |
| With Lepton Universality         |                  |             |                       |                     |                     |                     |                       |                     |                       |  |
|                                  |                  |             | $\Gamma_{\text{had}}$ | $\Gamma_{\ell\ell}$ | $\Gamma_{b\bar{b}}$ | $\Gamma_{c\bar{c}}$ | $\Gamma_{\text{inv}}$ |                     |                       |  |
| $\Gamma_{\text{had}}$            | 1744.4           | $\pm 2.0$   | 1.00                  |                     |                     |                     |                       |                     |                       |  |
| $\Gamma_{\ell\ell}$              | 83.985           | $\pm 0.086$ | 0.39                  | 1.00                |                     |                     |                       |                     |                       |  |
| $\Gamma_{b\bar{b}}$              | 377.3            | $\pm 1.2$   | 0.35                  | 0.13                | 1.00                |                     |                       |                     |                       |  |
| $\Gamma_{c\bar{c}}$              | 300.2            | $\pm 5.2$   | 0.06                  | 0.03                | −0.15               | 1.00                |                       |                     |                       |  |
| $\Gamma_{\text{inv}}$            | 499.0            | $\pm 1.5$   | −0.29                 | 0.49                | −0.10               | −0.02               | 1.00                  |                     |                       |  |

Table 7.1: Partial Z decay widths, derived from the results of Tables 2.13, 5.10 and 5.11. The width denoted as  $\ell^+\ell^-$  is that of a single charged massless lepton species. The width to invisible particles is calculated as the difference of total and all other partial widths.







$\chi^2/\text{d.o.f.}: 11.8 / 5$

