| Decay Mode | Z | | $H^0$ | |
|---|---|---|---|---|
| | BR | $\sigma$ (pb) | BR | $\sigma$ (pb) |
| $u\bar{u},d\bar{d},s\bar{s}$ | 0.427 | 160.6 | 0.0003 | 0.009 |
| $c\bar{c}$ | 0.119 | 44.8 | 0.029 | 0.88 |
| $b\bar{b}$ | 0.152 | 57.2 | 0.577 | 17.5 |
| $e^+e^-$ | 0.036 | 13.5 | — | — |
| $\mu^+\mu^-$ | 0.037 | 13.9 | 0.00022 | 0.007 |
| $\tau^+\tau^-$ | 0.034 | 12.8 | 0.063 | 1.91 |
| $\nu_\ell\bar{\nu}_\ell$ | 0.200 | 75.4 | — | — |
| $gg$ | — | — | 0.086 | 2.61 |
| $\gamma\gamma$ | — | — | 0.002 | 0.061 |
| $WW^*$ | — | — | 0.215 | 6.51 |
| $Z\gamma$ | — | — | 0.0015 | 0.05 |
| $Z^0Z^0$ | — | — | 0.026 | 0.79 |
| Total: | 1.0 | 376.3 | 1.0 | 30.3 |

Table 1: Branching fractions and effective cross sections for Standard Model decay modes of Higgs and Z bosons. Higgs cross sections are calculated as the peak value of the Higgs peak Breit-Wigner convoluted with a Gaussian of width 4.07 MeV to simulate the effect of beam smearing. Higgs branching ratios are taken from LHC Higgs Cross Section Working Group tables for 125 GeV Higgs. Z branching ratios taken from PYTHIA 6.4 event generation output.

| Channel | Cross Sections ($pb$) | | $S/\sqrt{B}$ |
|---|---|---|---|
| Total | $\sigma_s$ | 27.3 | 1.61 |
| | $\sigma_b$ | 286.3 | |
| $b\bar{b}$ | $\sigma_s$ | 8.90 | 2.57 |
| | $\sigma_b$ | 11.95 | |