

Summary plots 1

June 17, 2022

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Plots with constraints

- Small regions (following previous paper) around

$$\delta a_\mu = (2.5 \pm 0.6) \times 10^{-9}, \quad \delta a_e = (-8.7 \pm 3.6) \times 10^{-13},$$

- perturbativity requirement

$$|\text{Re}(n_\ell)| < 250 \text{ GeV}.$$

- Red regions correspond to the requirement of an excess in $pp_{\text{ggF}} \rightarrow S \rightarrow \tau^+\tau^-$; the excess can arise from H, A or from both
- “Repeated plots: blue for analysis without the excess, red for analysis reproducing the excess, blue+red for both overlaid

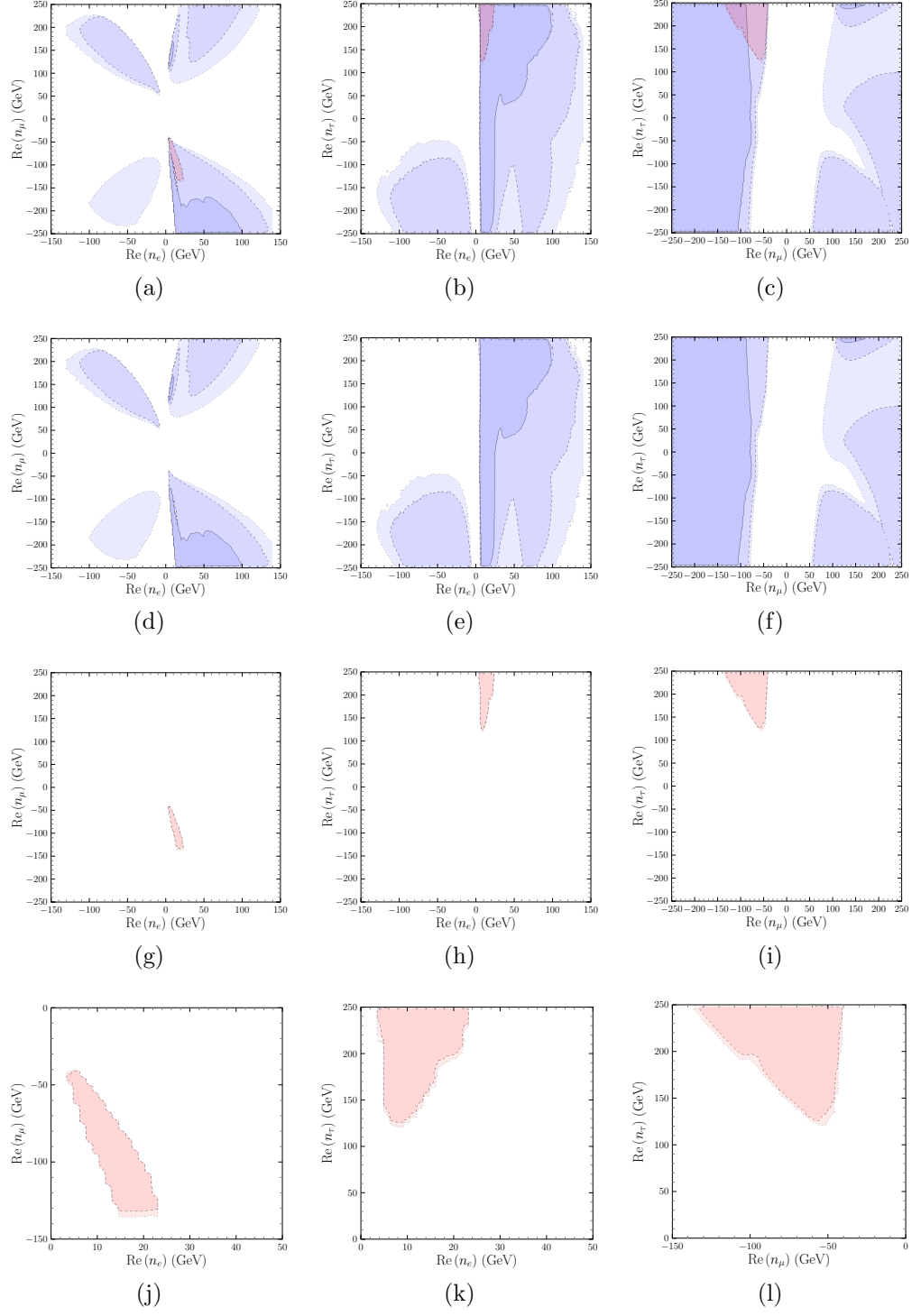


Figure 1: $\text{Re}(n_\ell)$

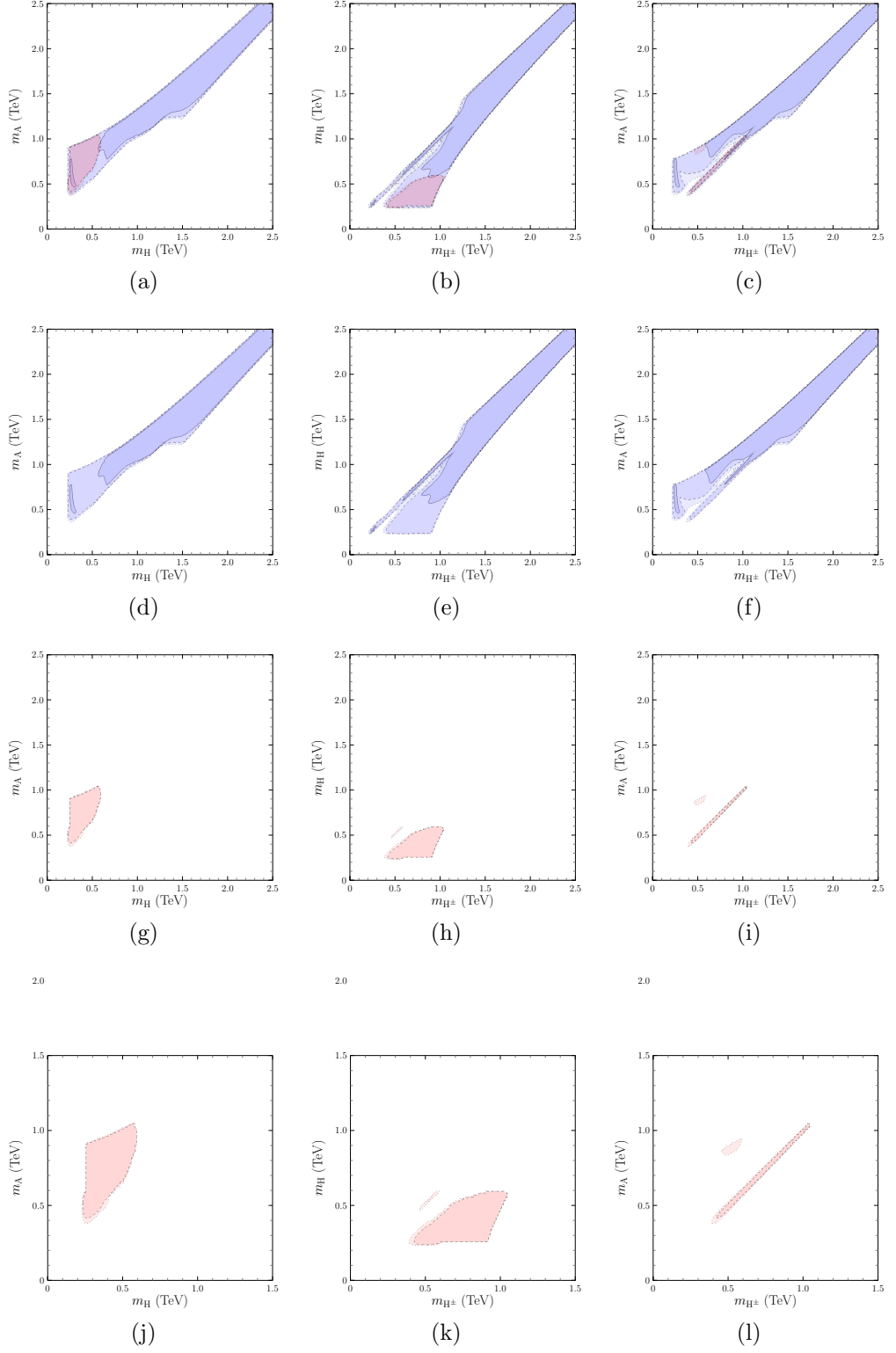


Figure 2: Scalar masses

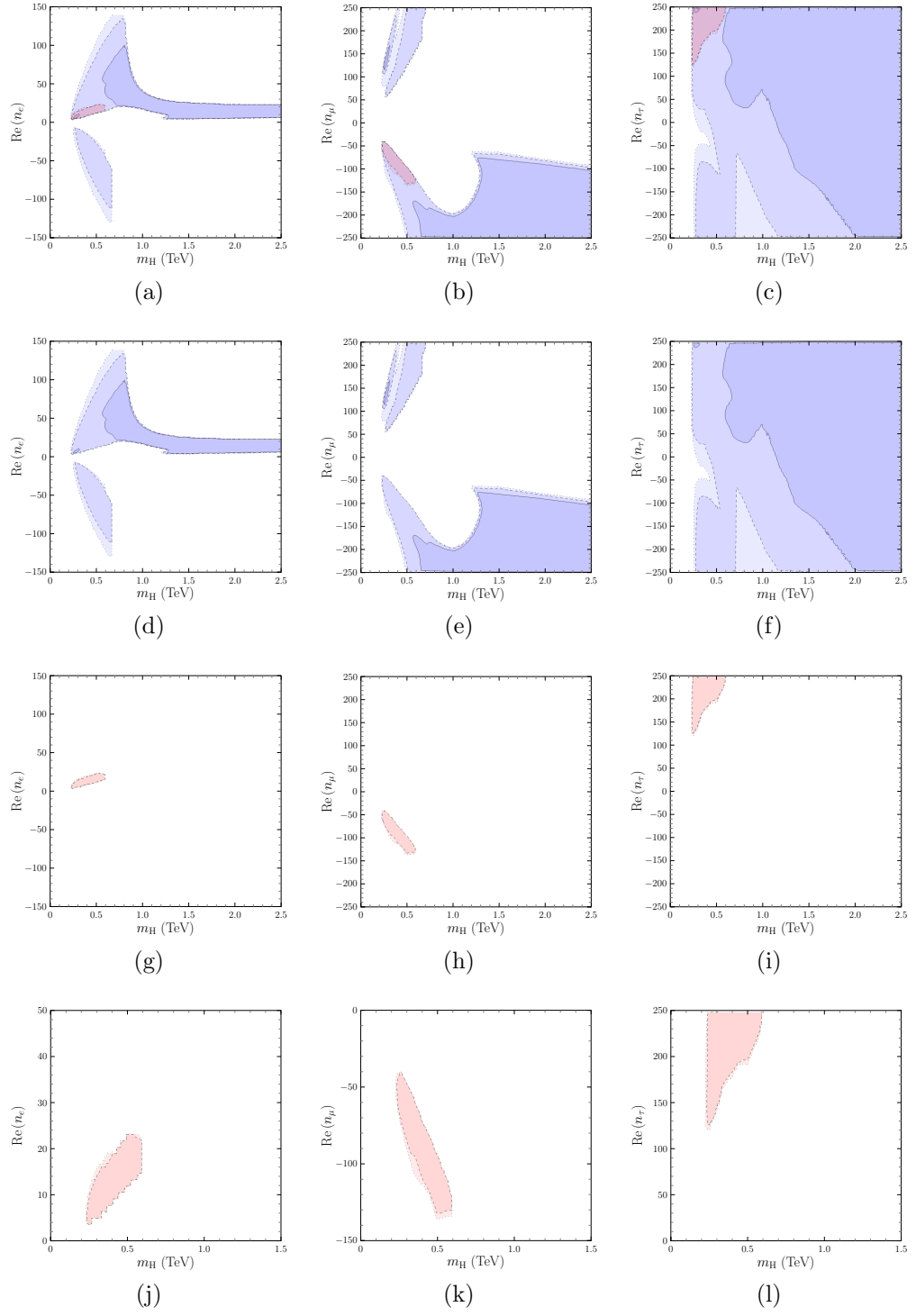


Figure 3: $\text{Re}(n_\ell)$ vs Masses

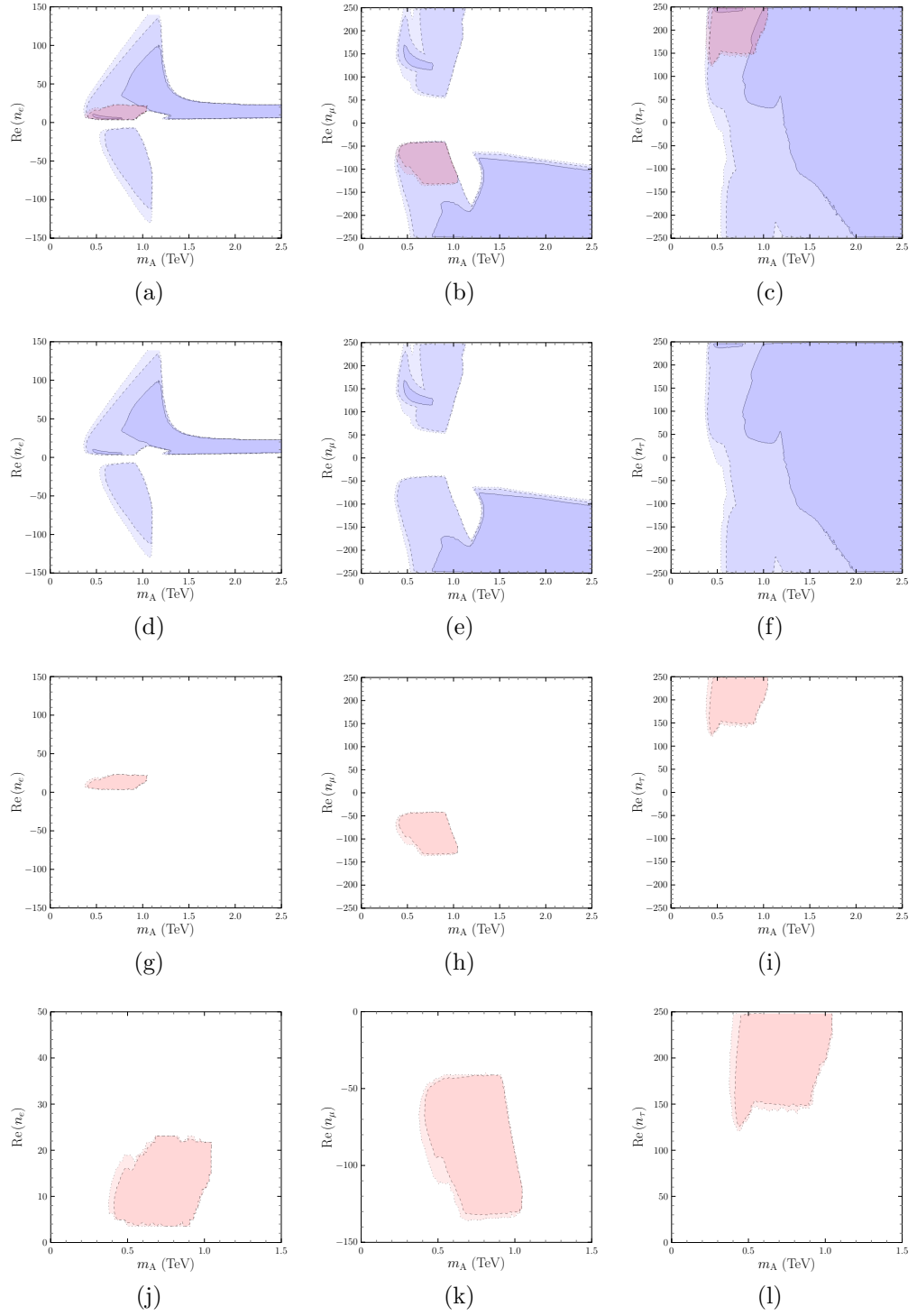


Figure 4: $\text{Re}(n_\ell)$ vs Masses

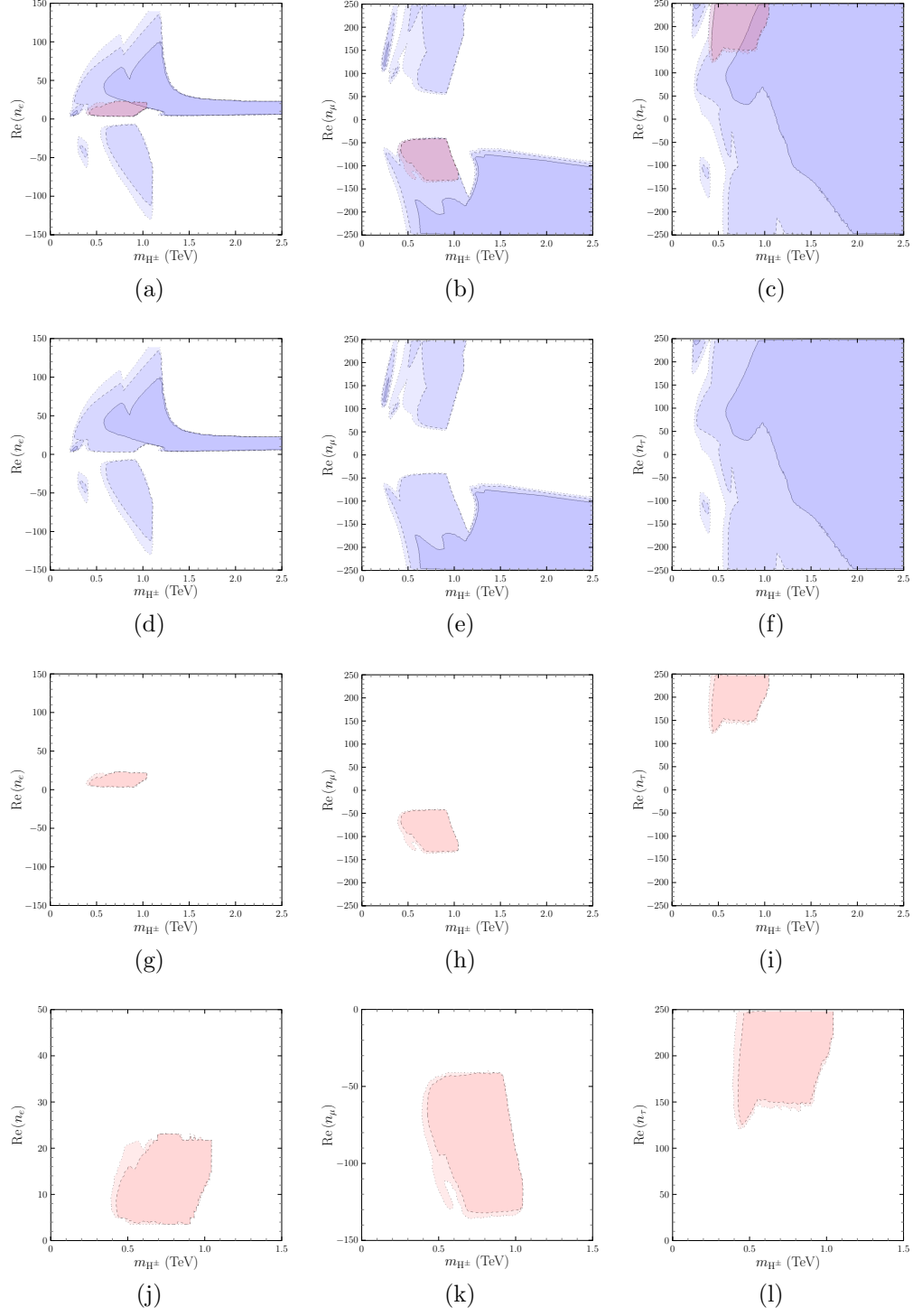


Figure 5: $\text{Re}(n_\ell)$ vs Masses

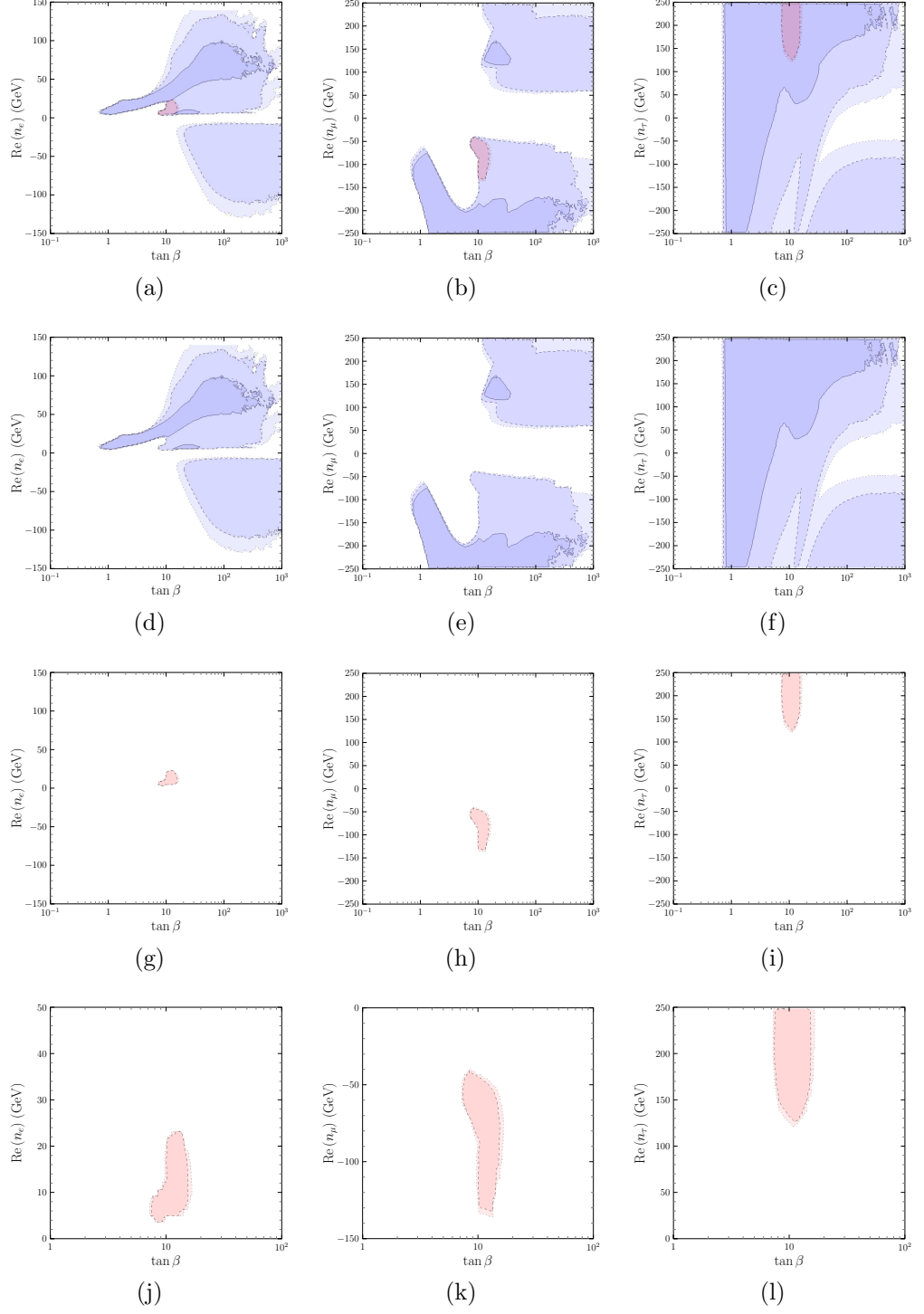


Figure 6: $\text{Re}(n_\ell)$ vs. $\tan \beta$

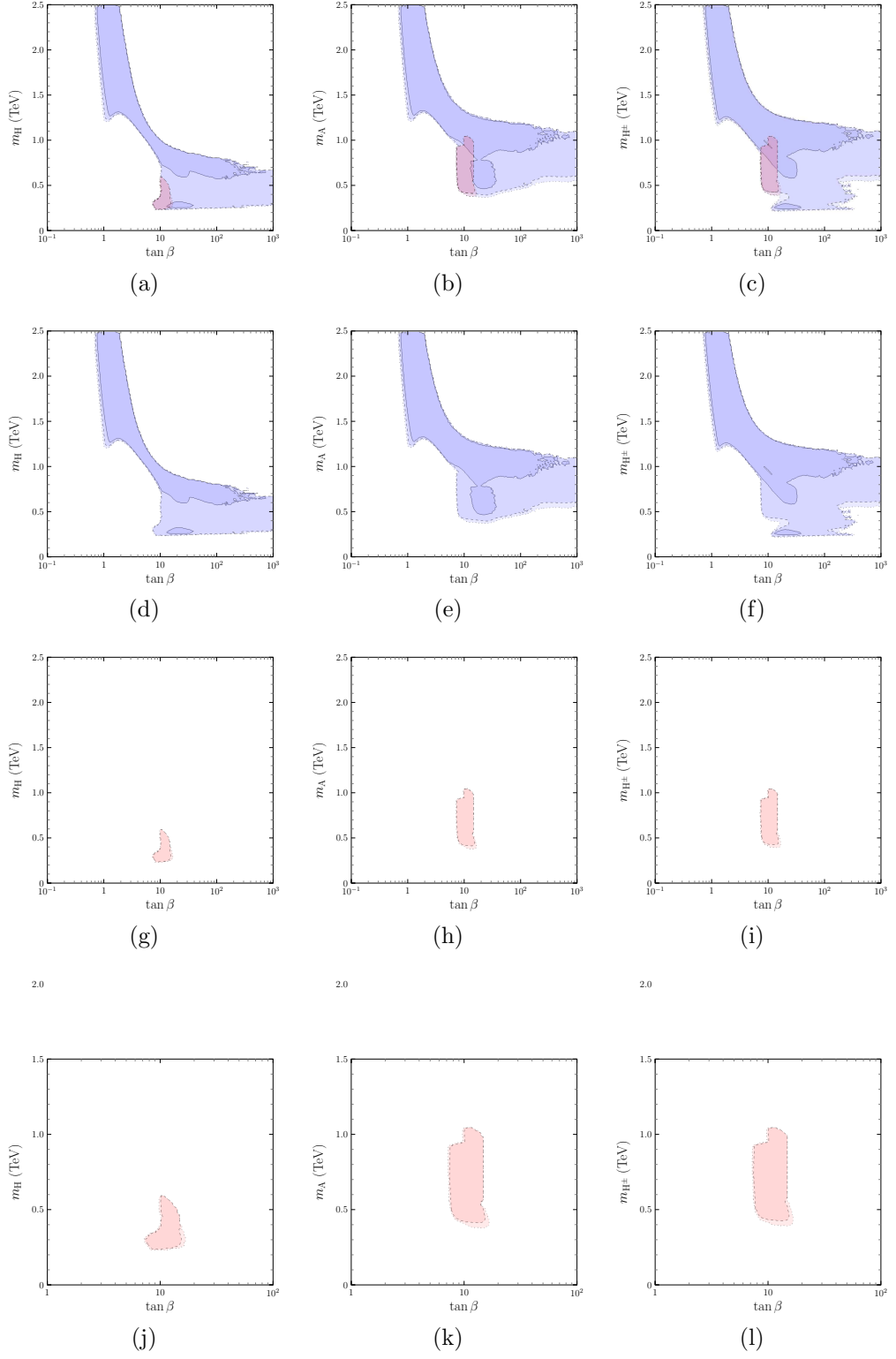


Figure 7: Masses vs. $\tan\beta$

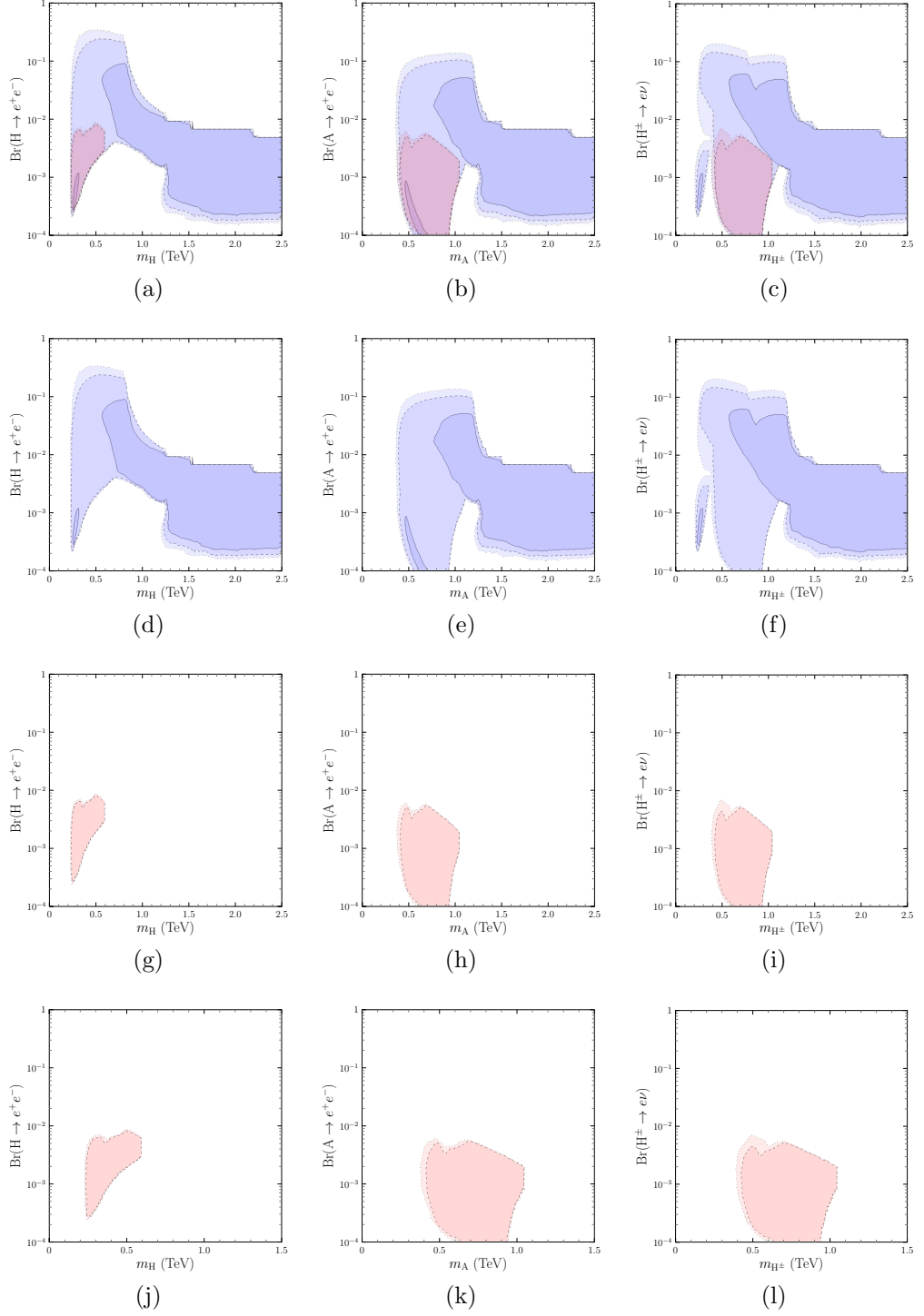


Figure 8: BR's of scalars (1)

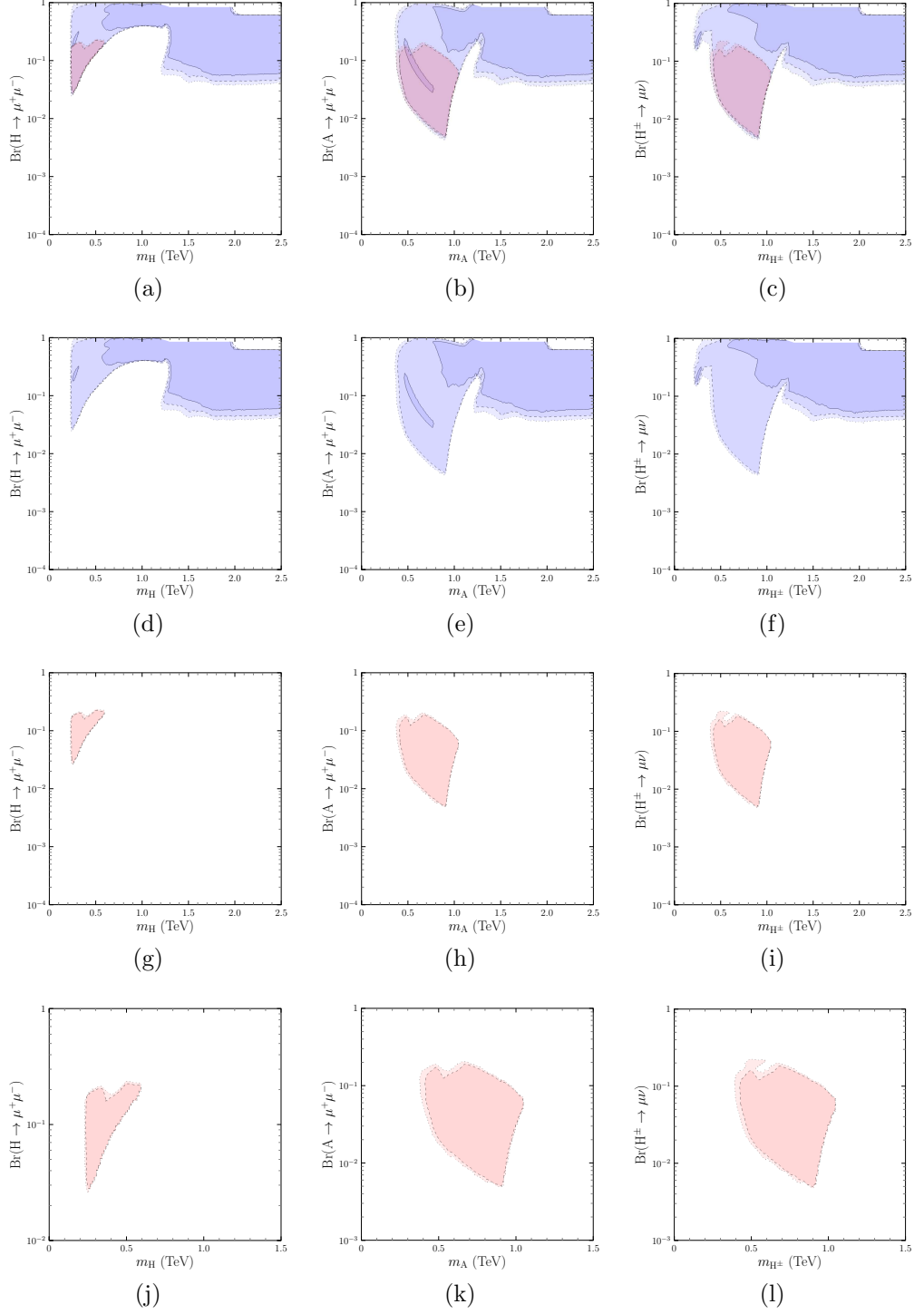


Figure 9: BR's of scalars (1)

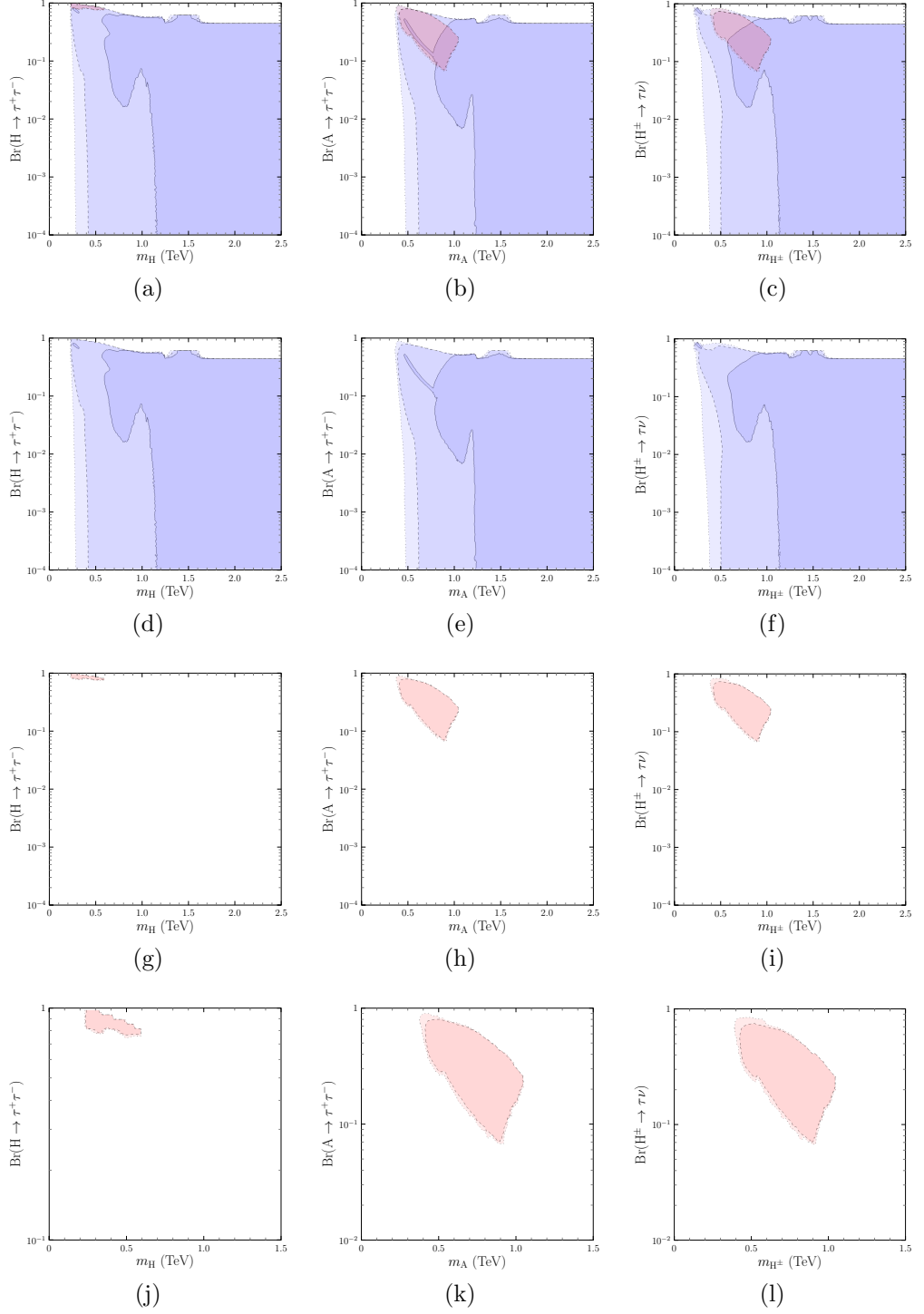


Figure 10: BR's of scalars (1)

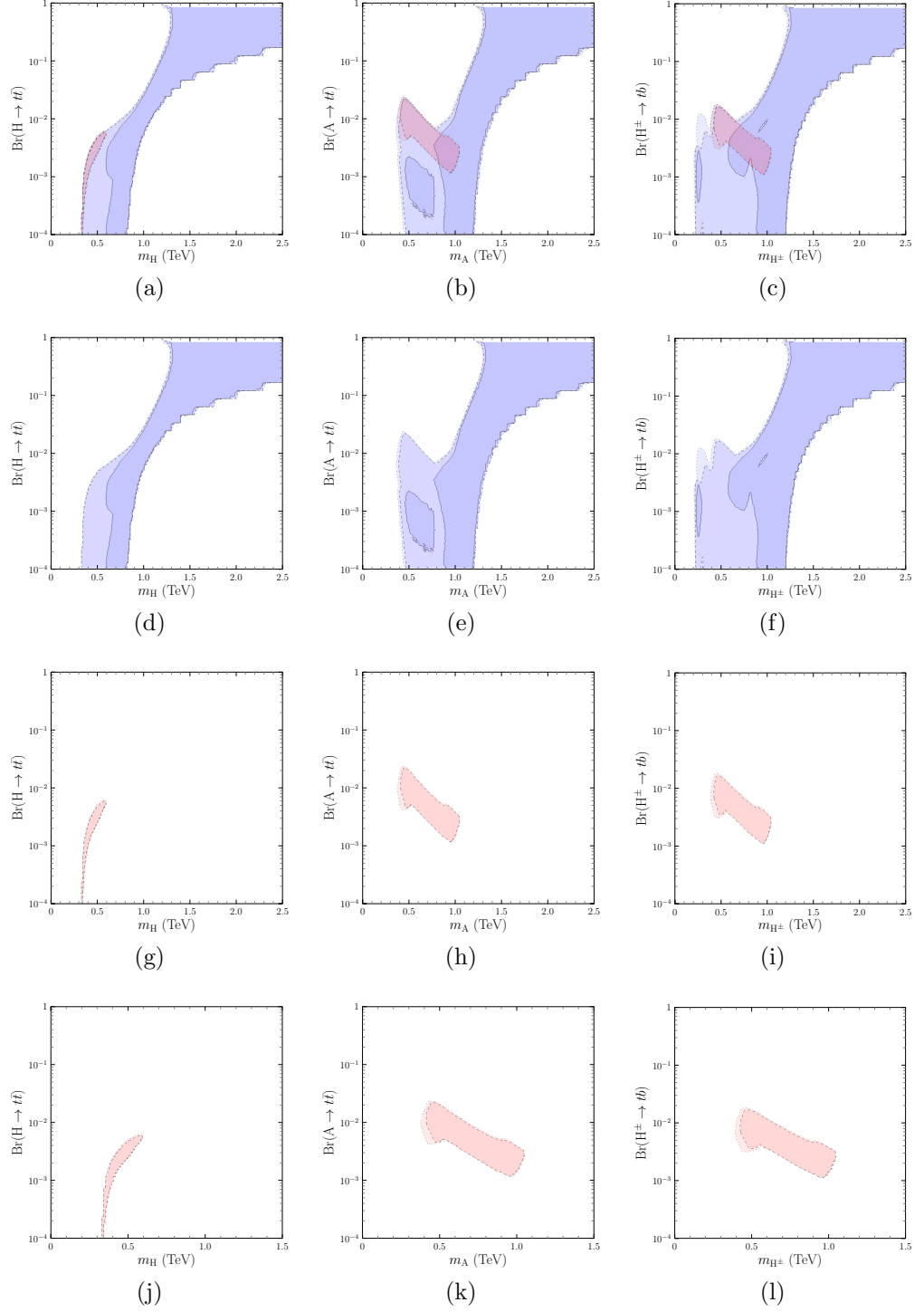


Figure 11: BR's of scalars (2)

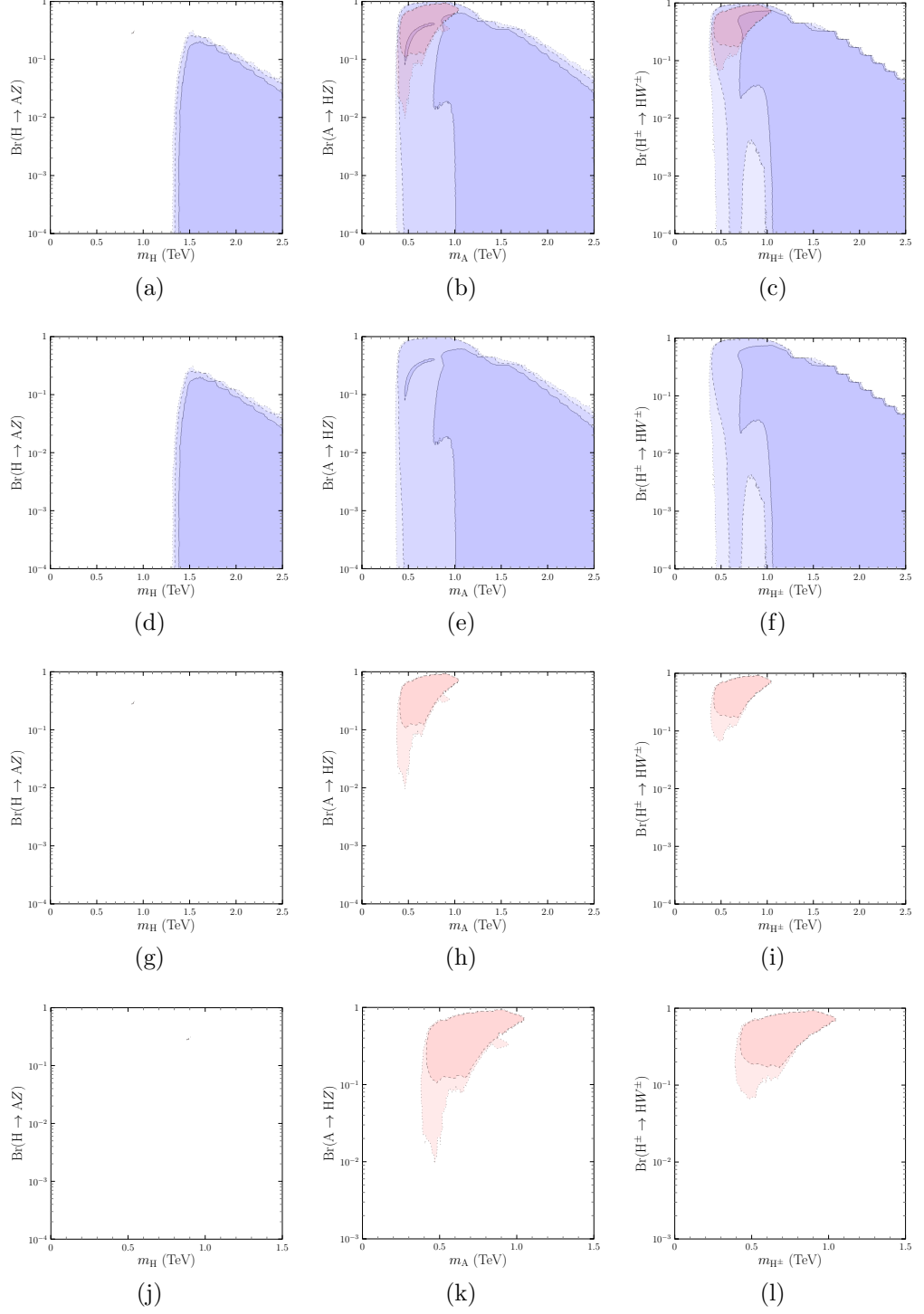


Figure 12: BR's of scalars (2)

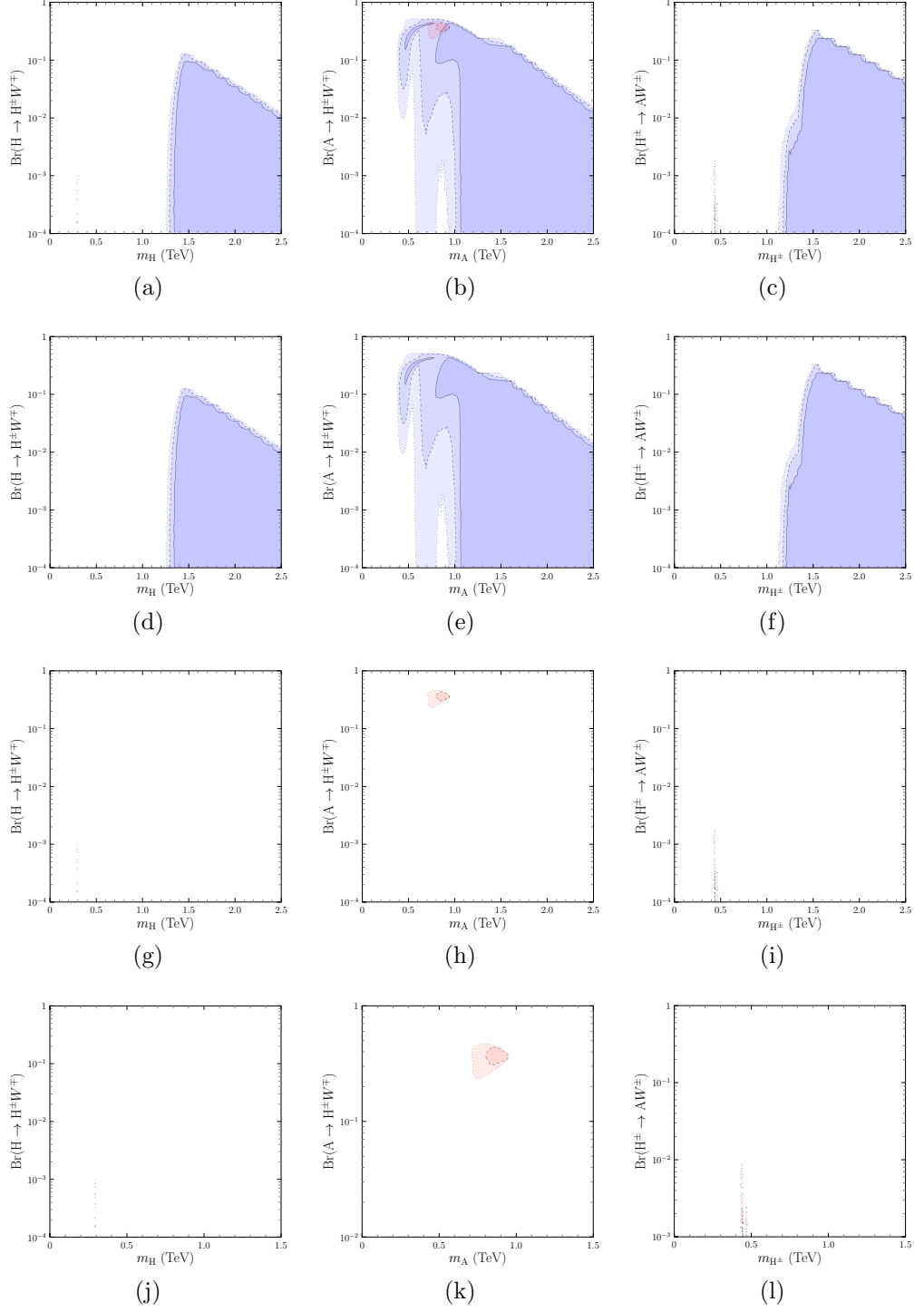


Figure 13: BR's of scalars (2)

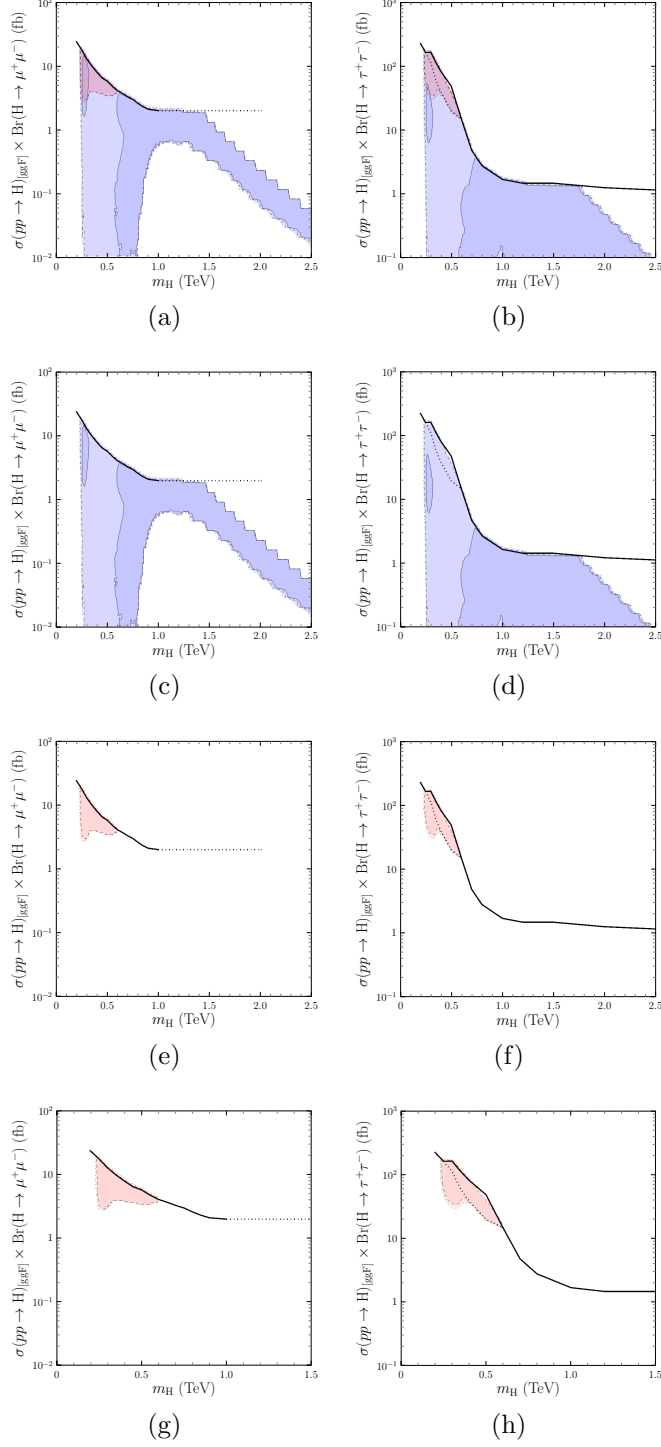


Figure 14: $[pp]_{\text{ggF}} \rightarrow H \rightarrow \ell^+ \ell^-$

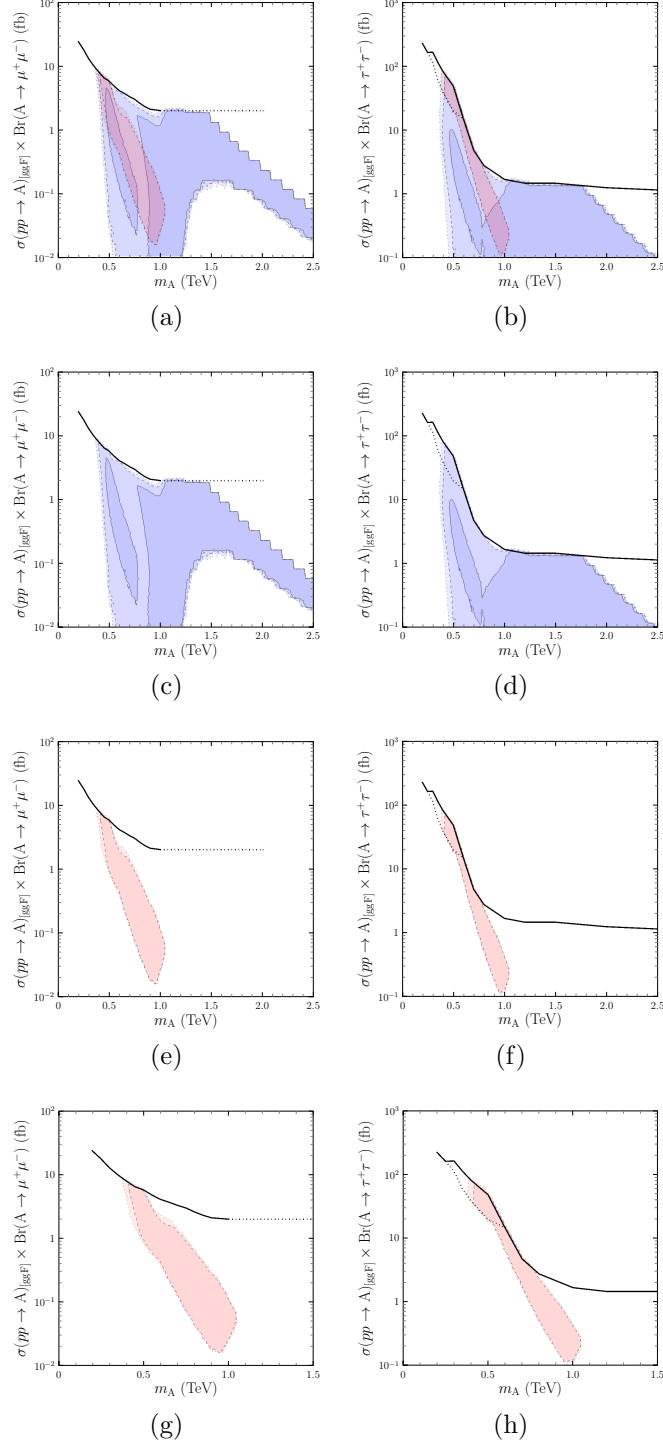


Figure 15: $[pp]_{\text{ggF}} \rightarrow A \rightarrow \ell^+ \ell^-$

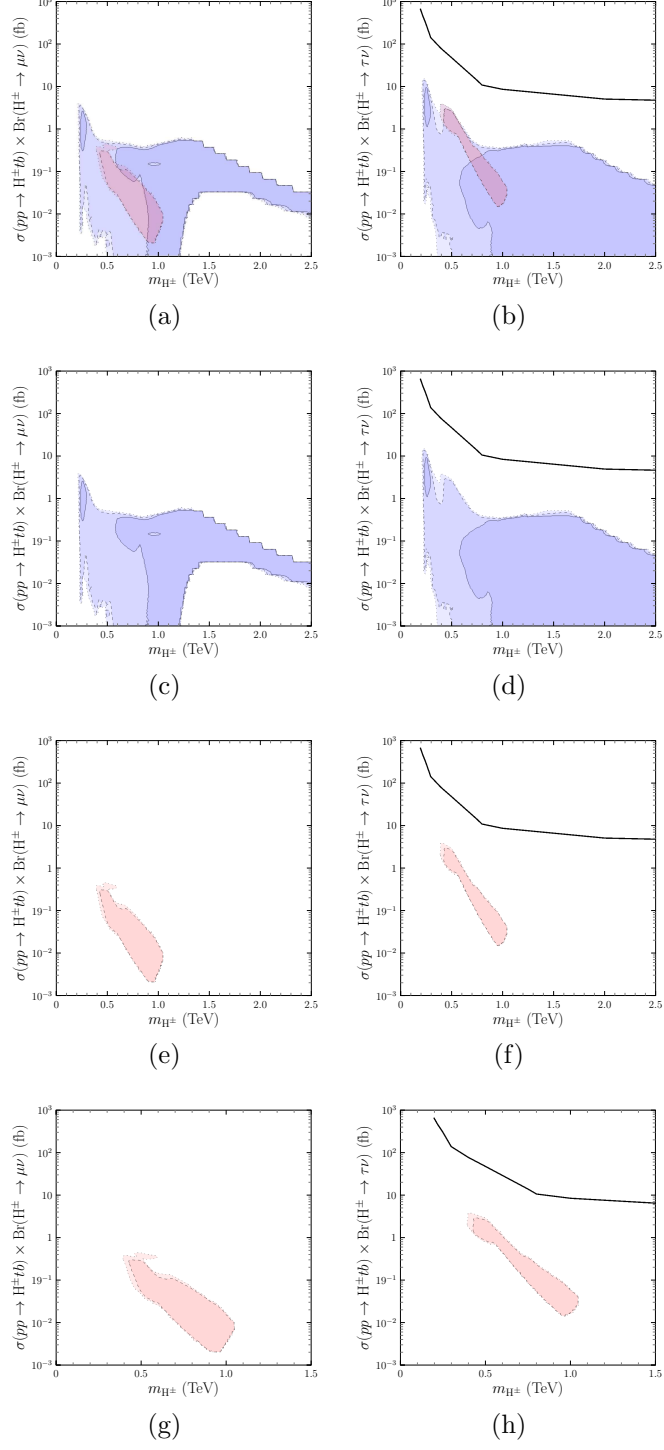


Figure 16: $[pp] \rightarrow H^\pm(tb) \rightarrow \ell\nu$

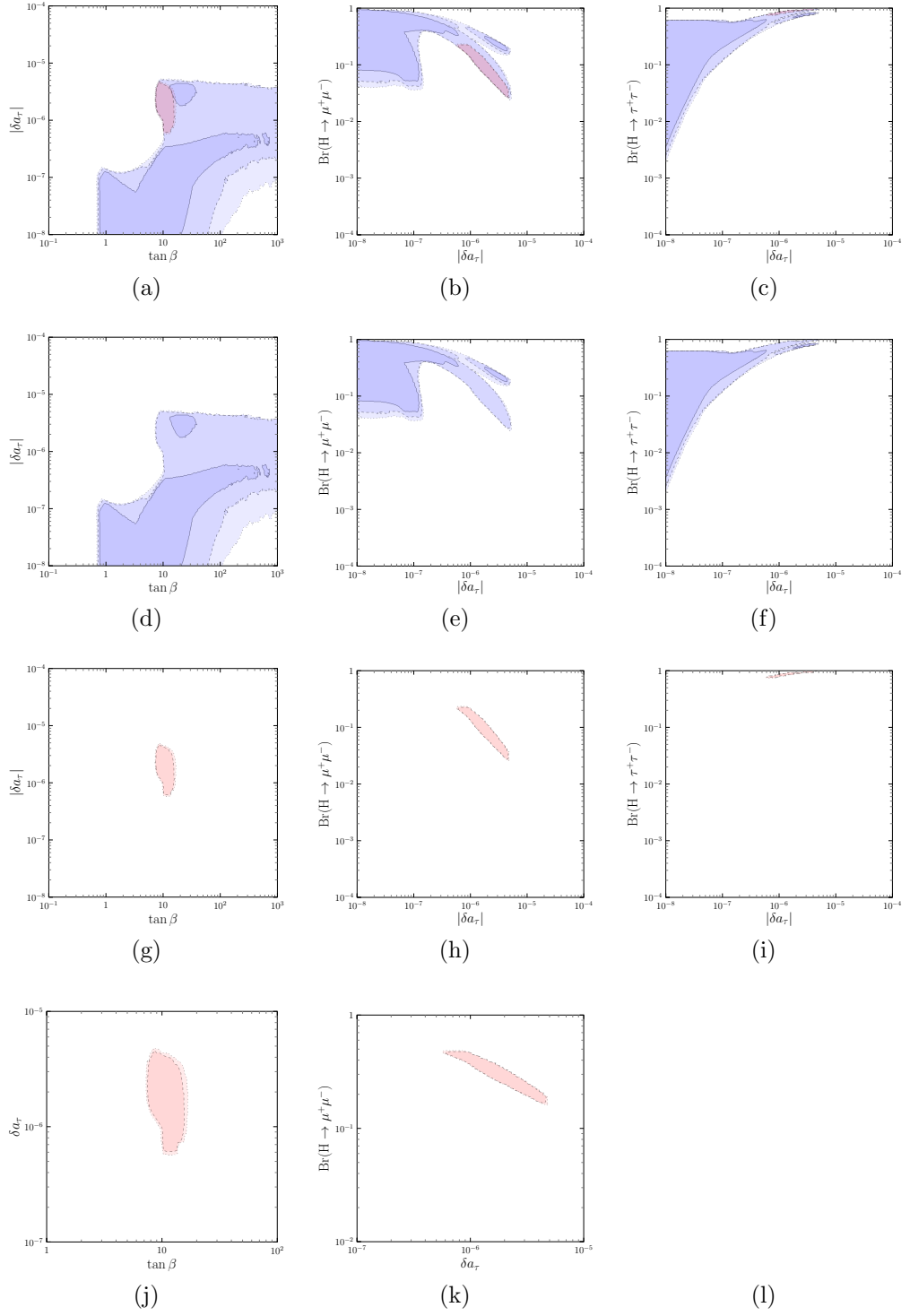


Figure 17: δa_τ (1)

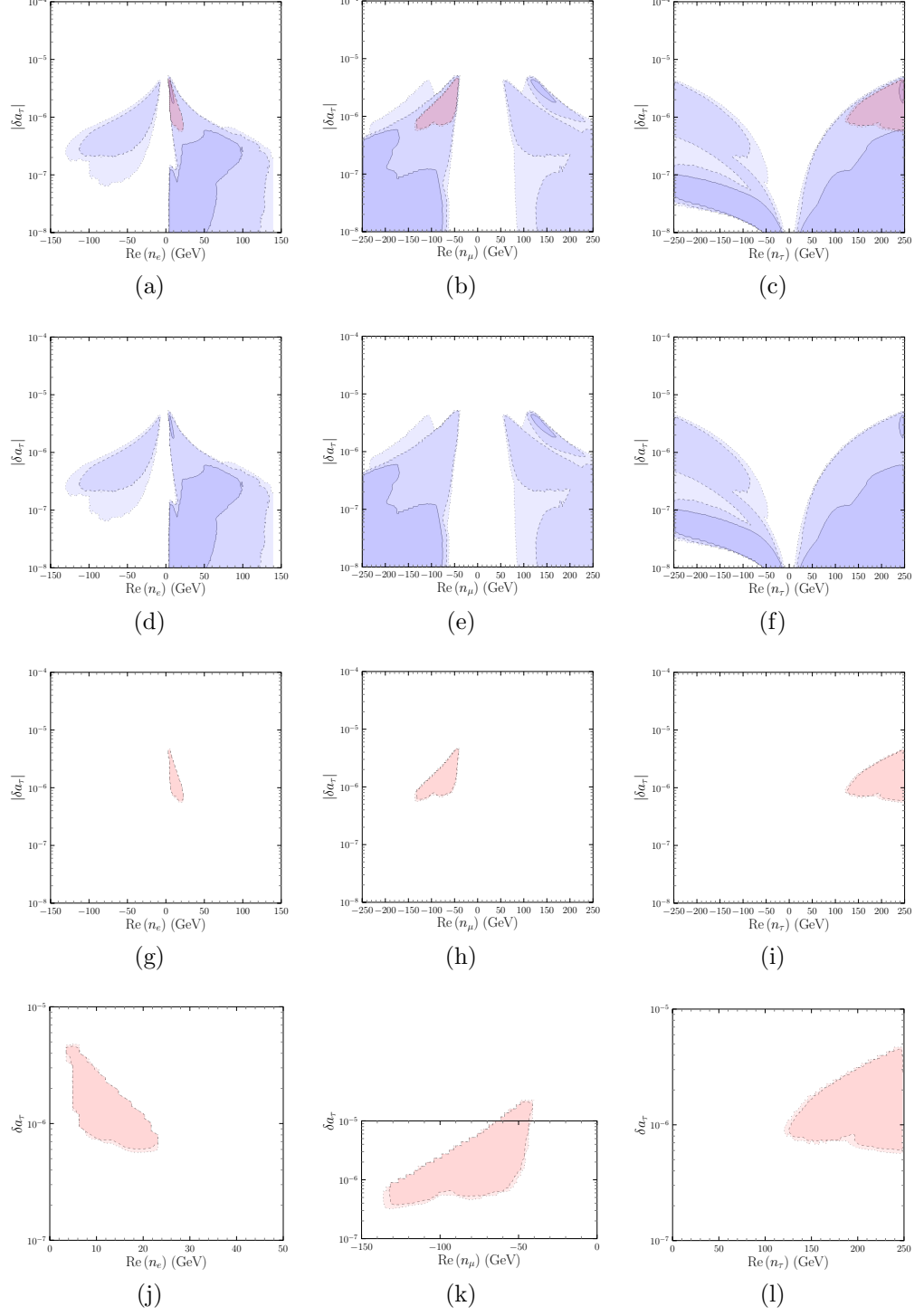


Figure 18: δa_τ vs $\text{Re}(n_\ell)$

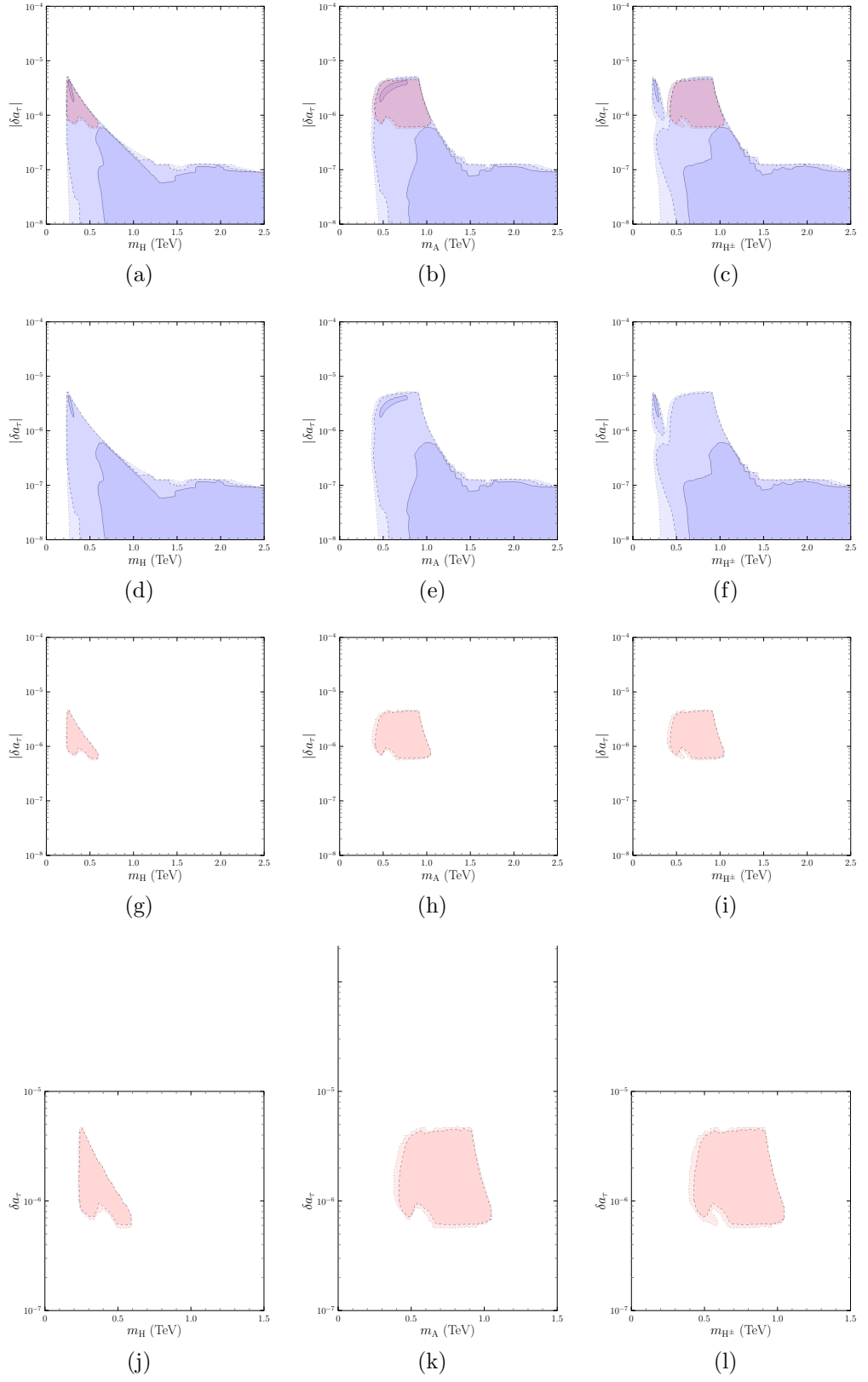
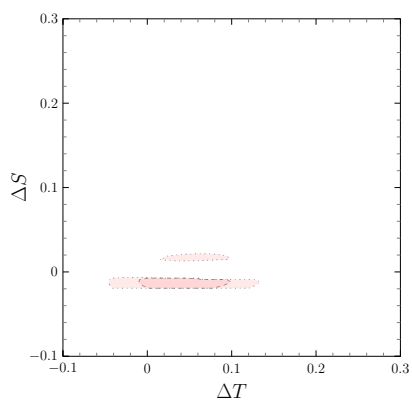
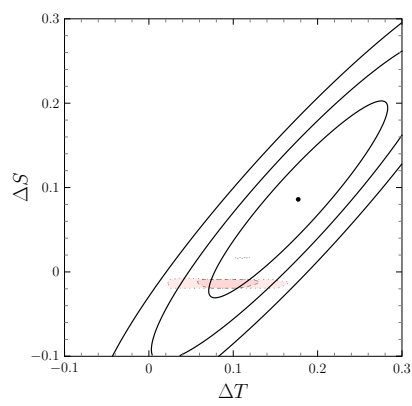


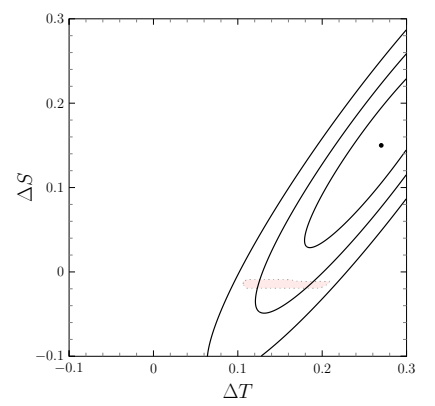
Figure 19: δa_τ vs Masses



(a)



(b)



(c)

Figure 20: ΔS vs ΔT