

# Two-dimensional plots - Summary group 4

February 21, 2022

## List of Figures

1	$m_{H^\pm}$ GeV vs. $\log_{10} \tan \beta$	3
2	$\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$ vs. $\log_{10} \tan \beta$	3
3	$\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$ vs. $\log_{10} \tan \beta$	4
4	$\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$ vs. $\log_{10} \tan \beta$	4
5	$\log_{10} \text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10} \tan \beta$	5
6	$\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10} \tan \beta$	5
7	$\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10} \tan \beta$	6
8	$\log_{10} \tan \beta$ vs. $m_{H^\pm}$ GeV	7
9	$\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$ vs. $m_{H^\pm}$ GeV	7
10	$\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$ vs. $m_{H^\pm}$ GeV	8
11	$\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$ vs. $m_{H^\pm}$ GeV	8
12	$\log_{10} \text{BR}(H^\pm \rightarrow tb)$ vs. $m_{H^\pm}$ GeV	9
13	$\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $m_{H^\pm}$ GeV	9
14	$\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $m_{H^\pm}$ GeV	10
15	$\log_{10} \tan \beta$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	11
16	$m_{H^\pm}$ GeV vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	11
17	$\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	12
18	$\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	12
19	$\log_{10} \text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	13
20	$\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	13
21	$\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$	14
22	$\log_{10} \tan \beta$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	15
23	$m_{H^\pm}$ GeV vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	15
24	$\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	16
25	$\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	16
26	$\log_{10} \text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	17
27	$\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$	17

28	$\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$	18
29	$\log_{10}\tan\beta$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	19
30	$m_{H^\pm}$ GeV vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	19
31	$\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	20
32	$\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	20
33	$\log_{10}\text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	21
34	$\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	21
35	$\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$	22
36	$\log_{10}\tan\beta$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	23
37	$m_{H^\pm}$ GeV vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	23
38	$\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	24
39	$\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	24
40	$\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	25
41	$\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	25
42	$\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow tb)$	26
43	$\log_{10}\tan\beta$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	27
44	$m_{H^\pm}$ GeV vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	27
45	$\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	28
46	$\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	28
47	$\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	29
48	$\log_{10}\text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	29
49	$\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$	30
50	$\log_{10}\tan\beta$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	31
51	$m_{H^\pm}$ GeV vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	31
52	$\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	32
53	$\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	32
54	$\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	33
55	$\log_{10}\text{BR}(H^\pm \rightarrow tb)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	33
56	$\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$ vs. $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$	34

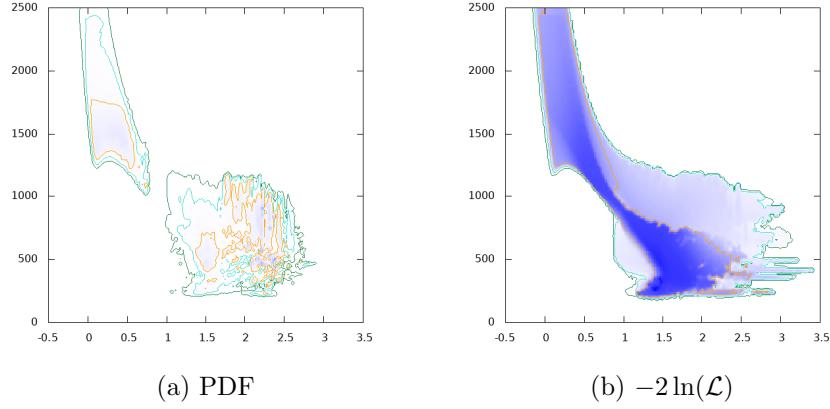


Figure 1:  $m_{H^\pm}$  GeV vs.  $\log_{10} \tan \beta$

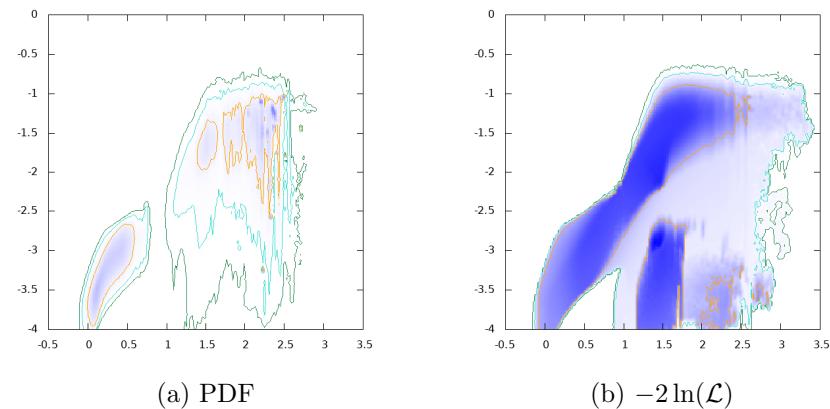


Figure 2:  $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$  vs.  $\log_{10} \tan \beta$

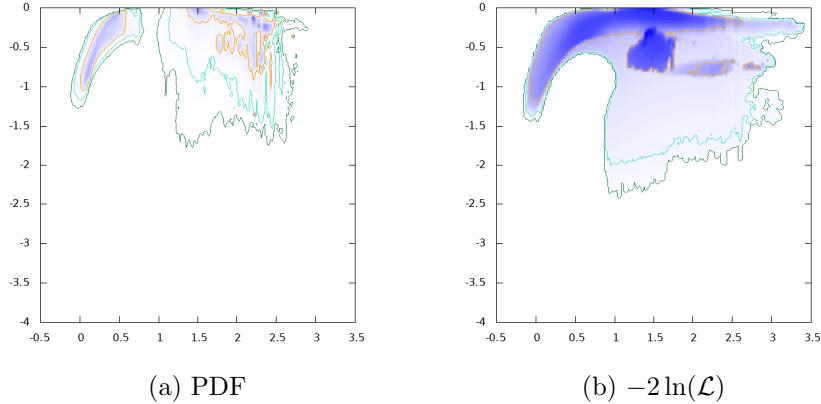


Figure 3:  $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$  vs.  $\log_{10} \tan \beta$

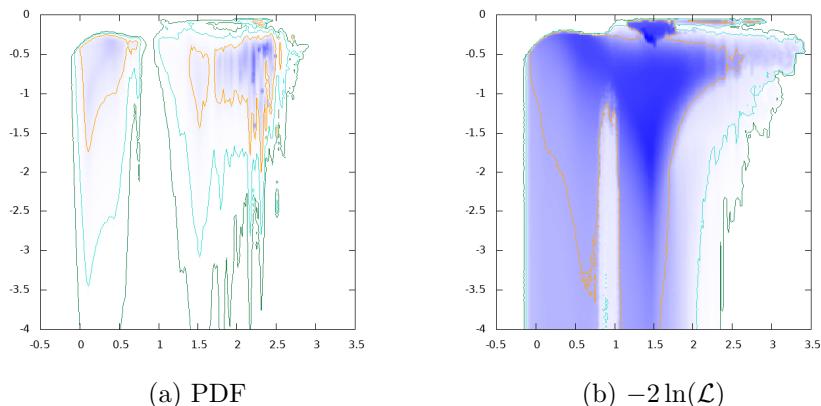


Figure 4:  $\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $\log_{10} \tan \beta$

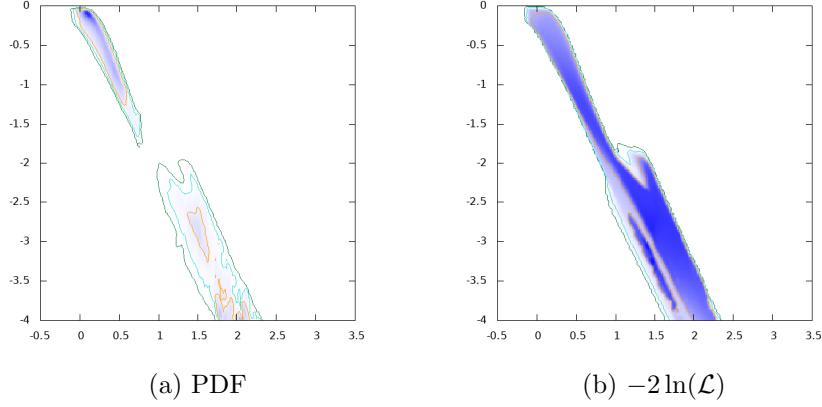


Figure 5:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10} \tan \beta$

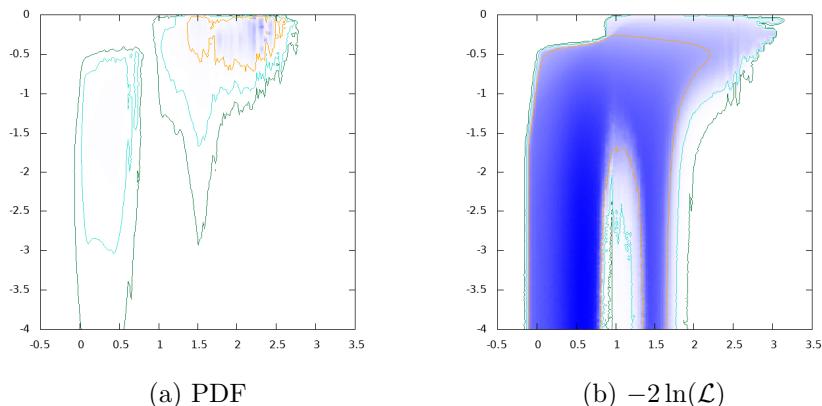


Figure 6:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10} \tan \beta$

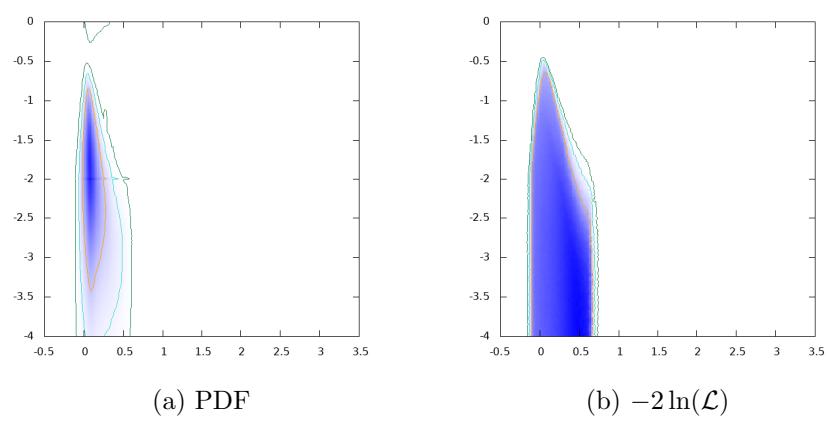
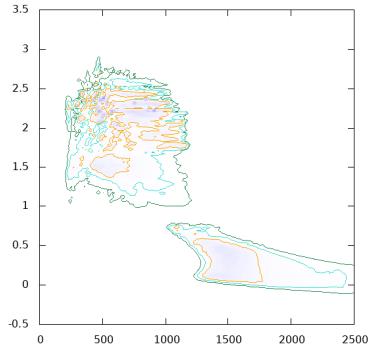
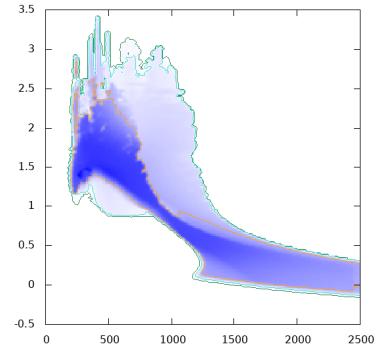


Figure 7:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10} \tan \beta$

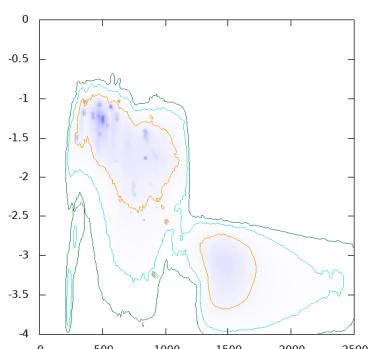


(a) PDF

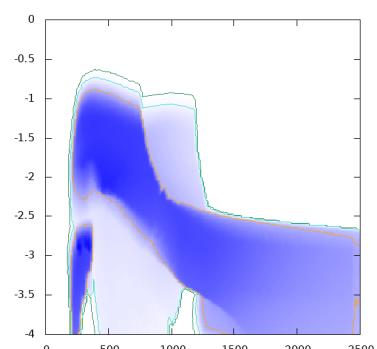


(b)  $-2 \ln(\mathcal{L})$

Figure 8:  $\log_{10} \tan \beta$  vs.  $m_{H^\pm}$  GeV



(a) PDF



(b)  $-2 \ln(\mathcal{L})$

Figure 9:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$  vs.  $m_{H^\pm}$  GeV

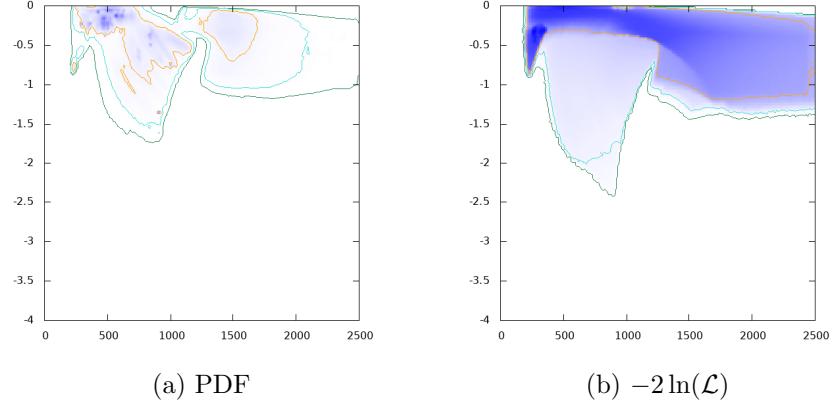


Figure 10:  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm \nu)$  vs.  $m_{H^\pm}$  GeV

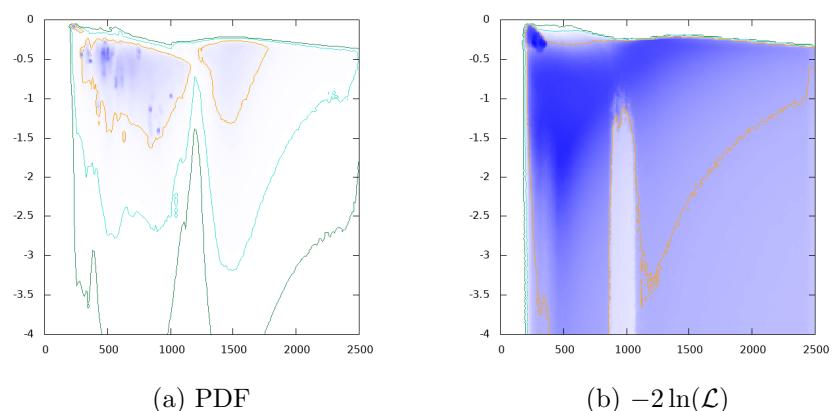


Figure 11:  $\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $m_{H^\pm}$  GeV

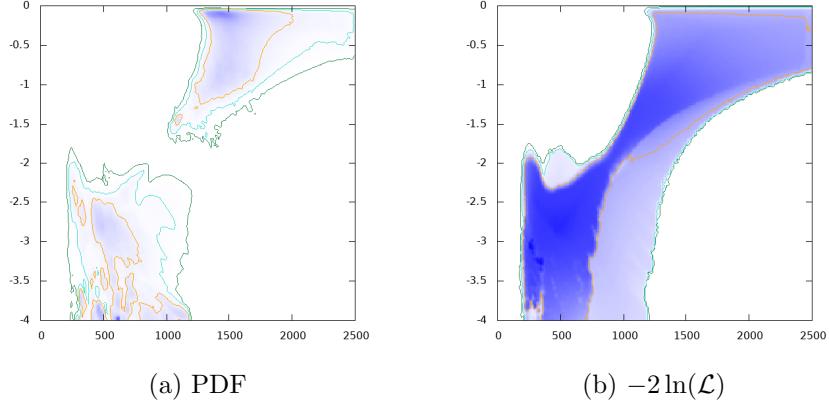


Figure 12:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $m_{H^\pm}$  GeV

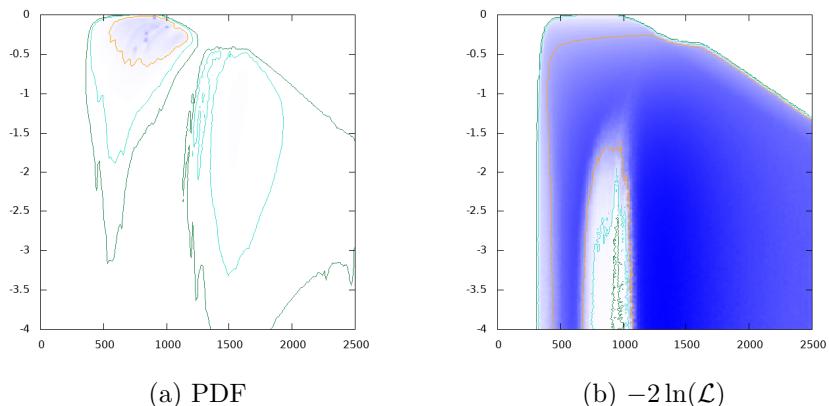


Figure 13:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $m_{H^\pm}$  GeV

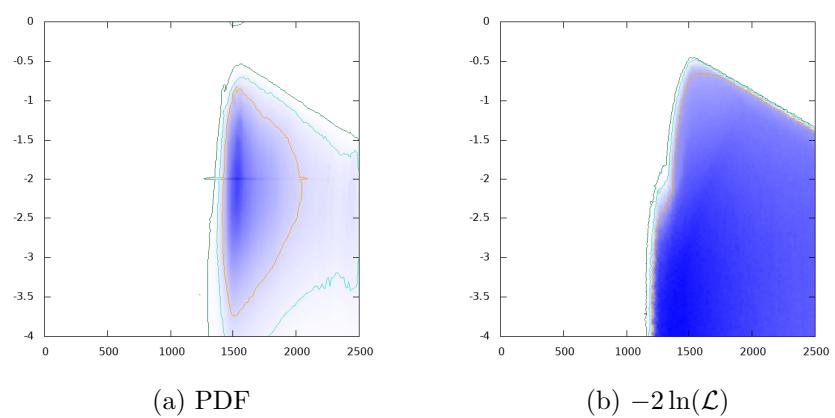


Figure 14:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $m_{H^\pm}$  GeV

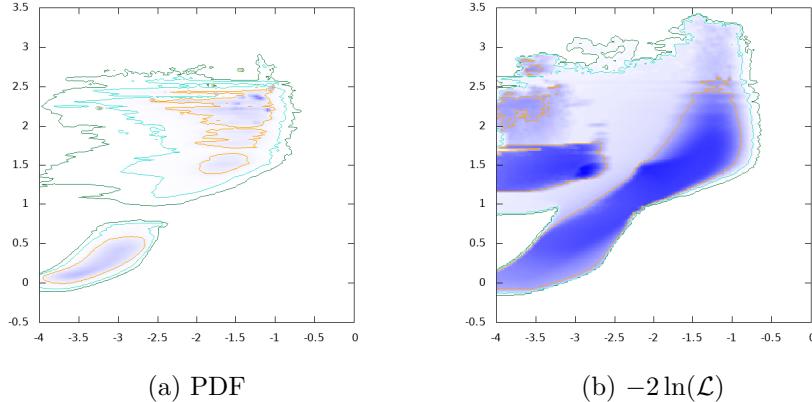


Figure 15:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow e^\pm \nu)$

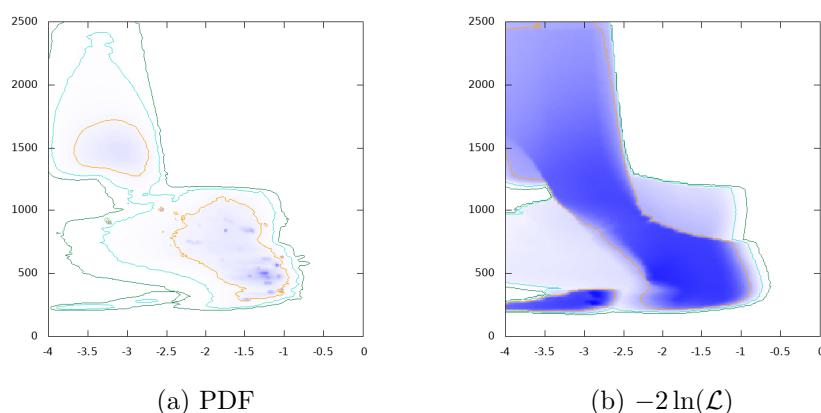


Figure 16:  $m_{H^\pm}$  GeV vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$

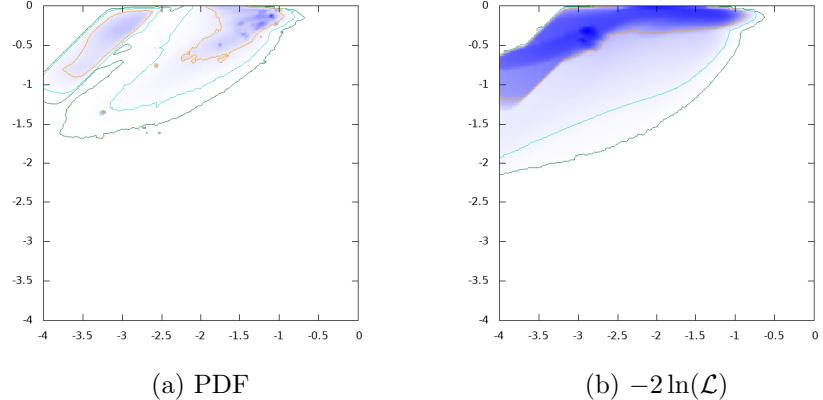


Figure 17:  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$

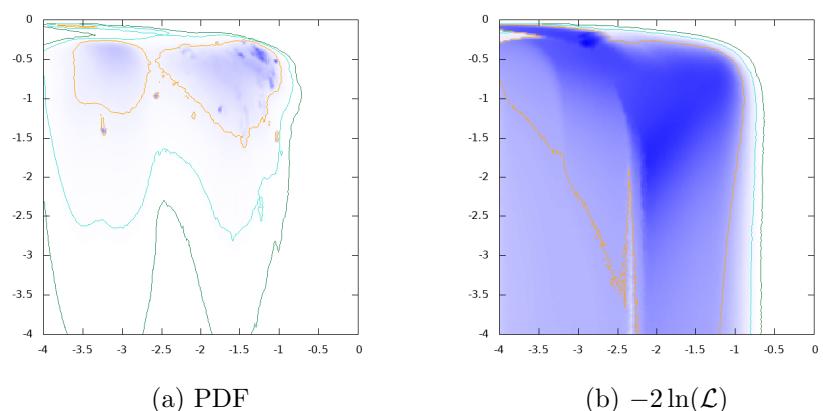


Figure 18:  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$

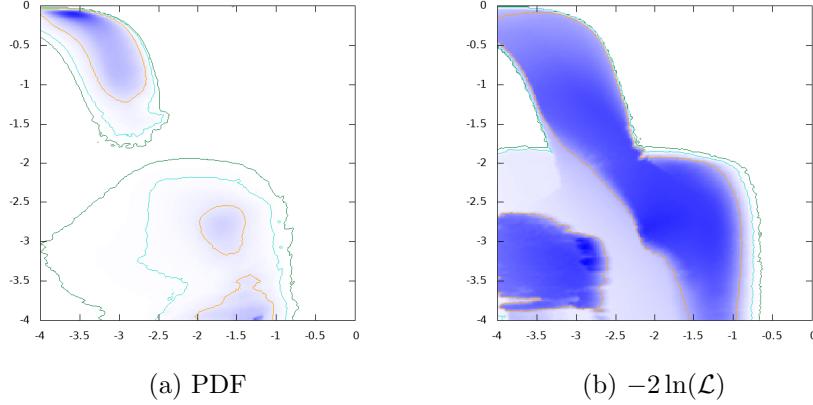


Figure 19:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$

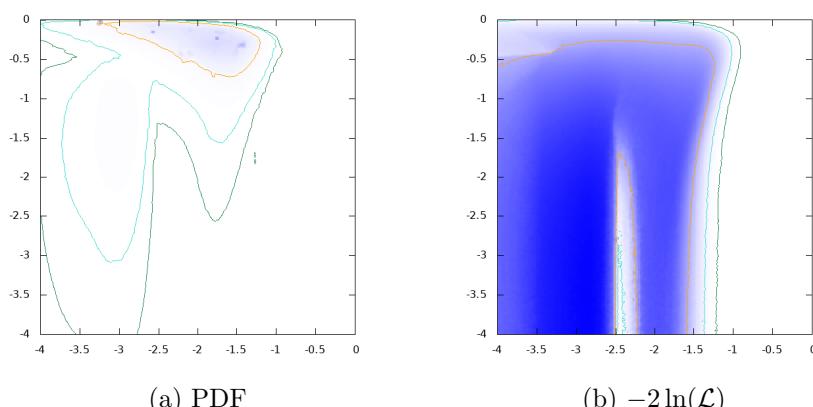


Figure 20:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$

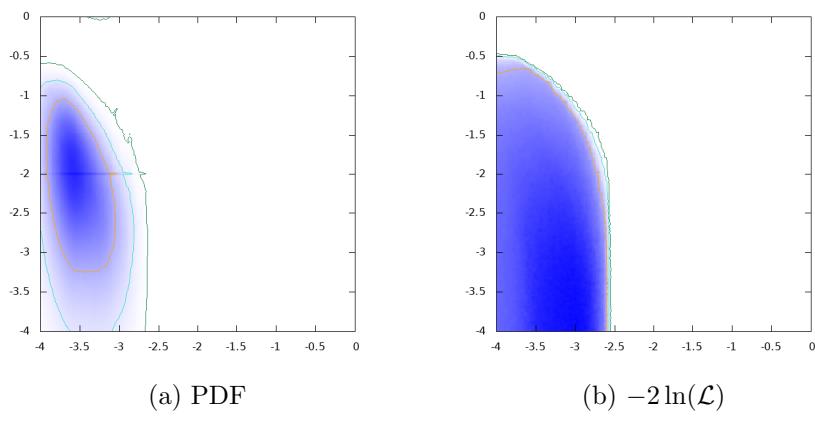


Figure 21:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$

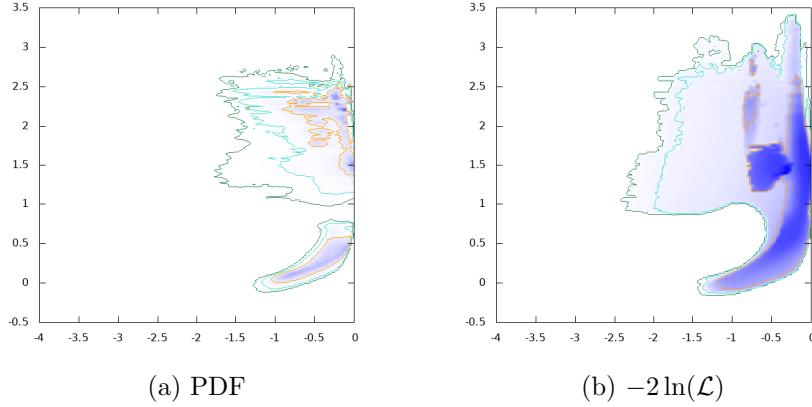


Figure 22:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$

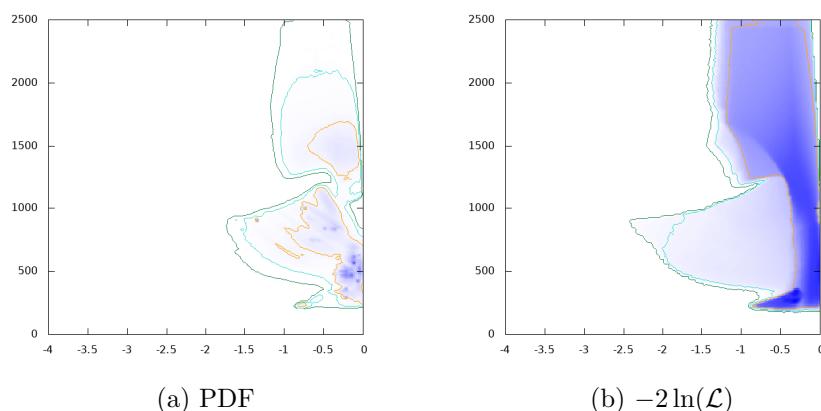


Figure 23:  $m_{H^\pm}$  GeV vs.  $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$

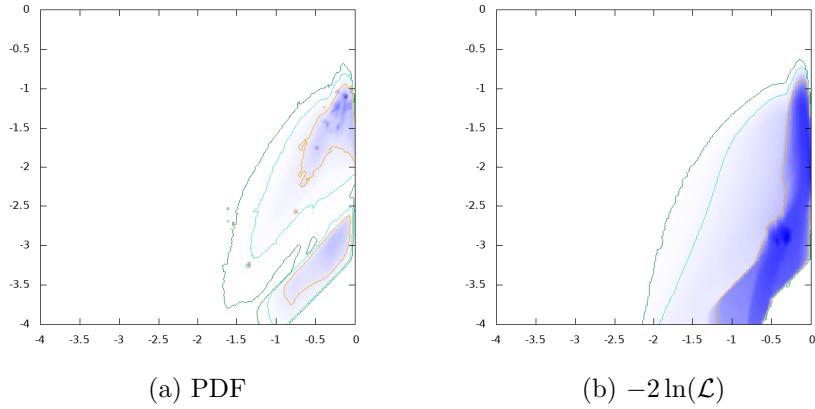


Figure 24:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$

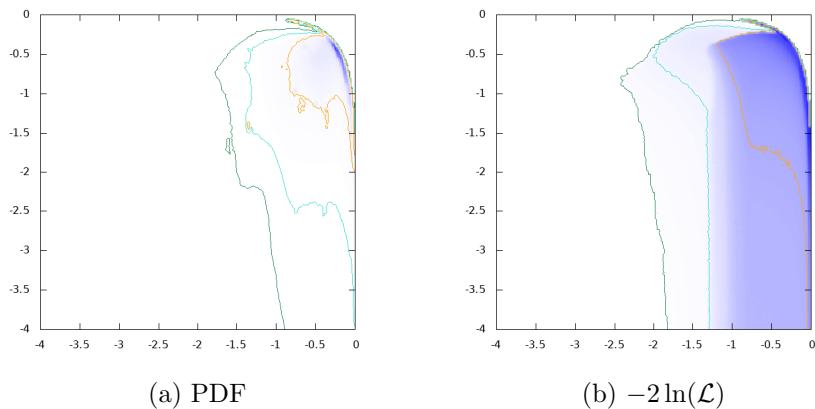


Figure 25:  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$

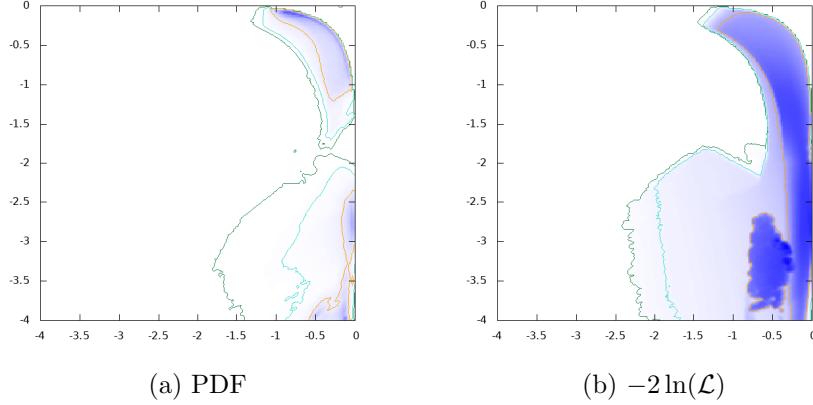


Figure 26:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$

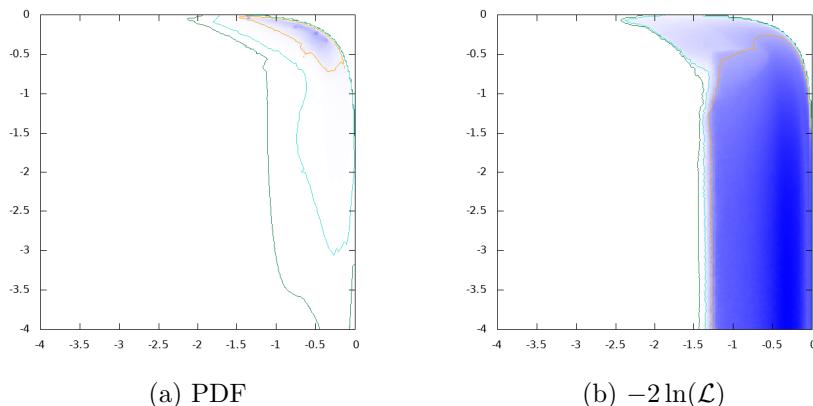


Figure 27:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$

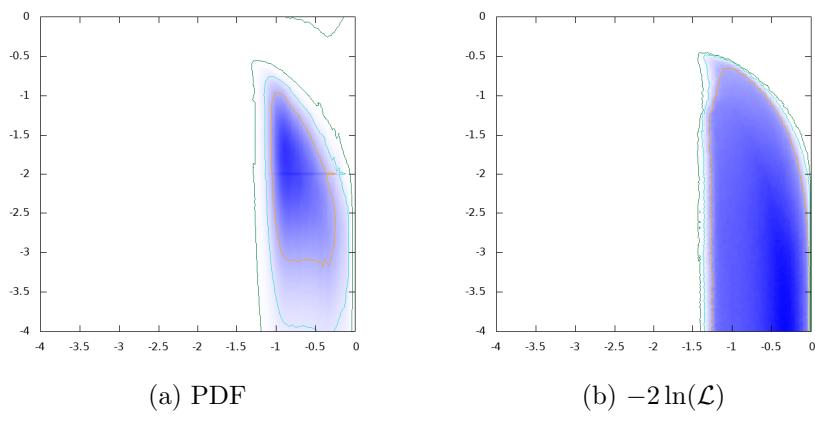


Figure 28:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm \nu)$

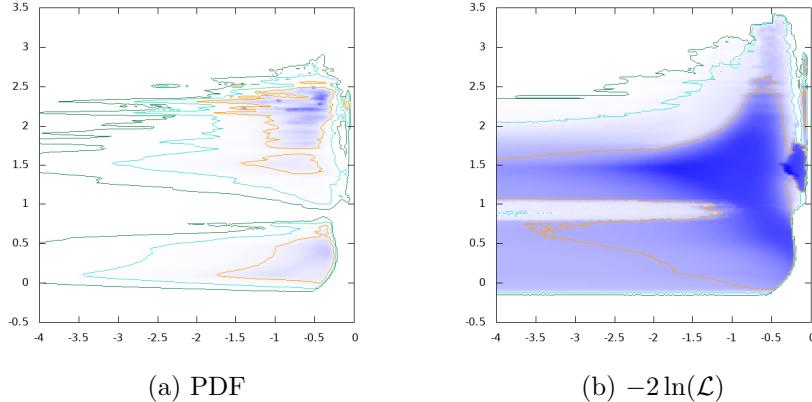


Figure 29:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow \tau^\pm \nu)$

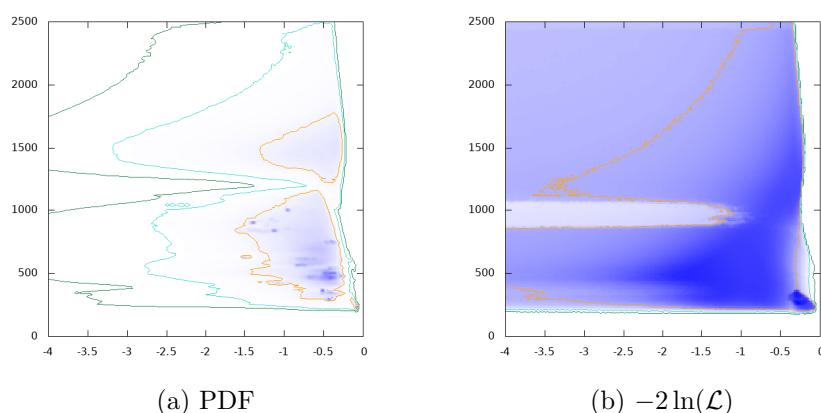


Figure 30:  $m_{H^\pm}$  GeV vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$

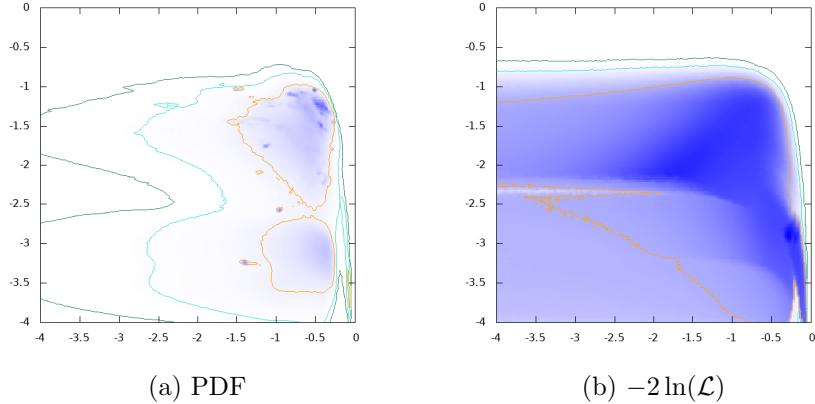


Figure 31:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$

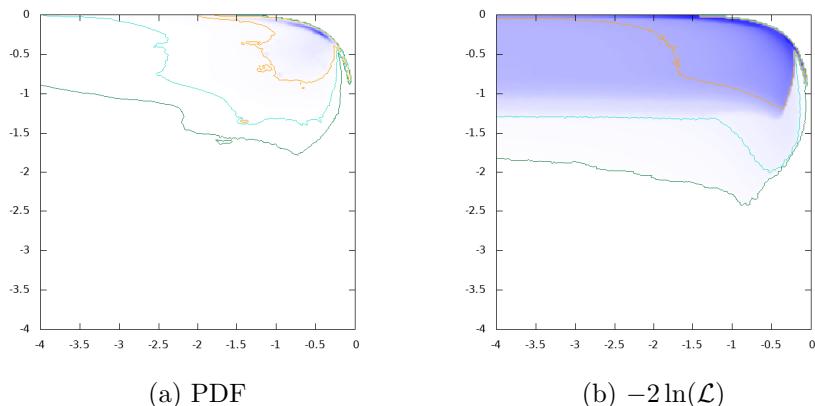


Figure 32:  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm\nu)$

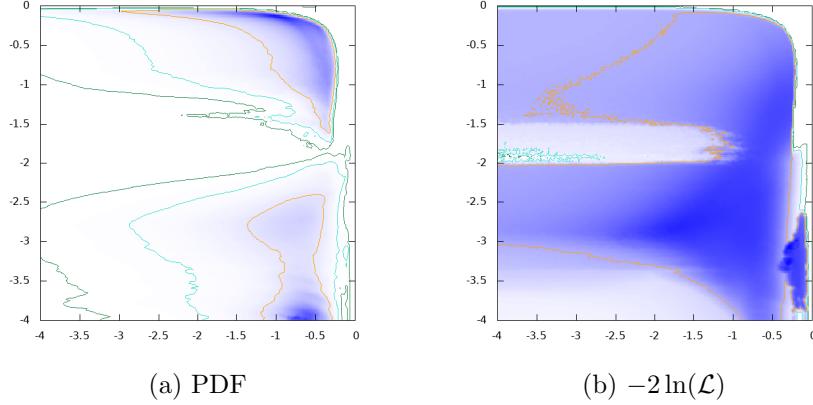


Figure 33:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$

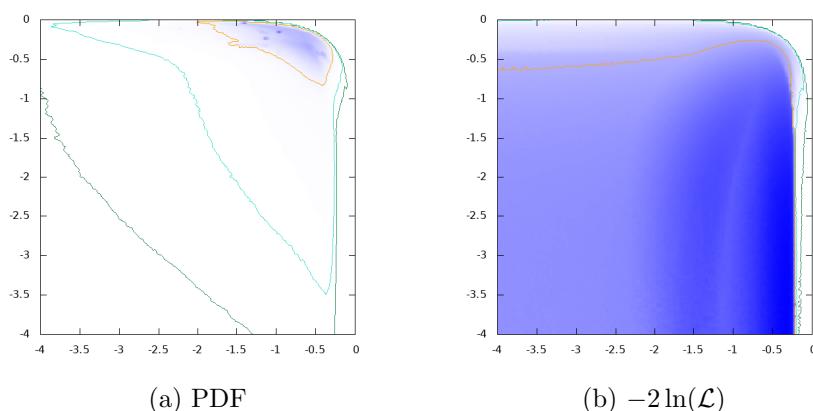


Figure 34:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$

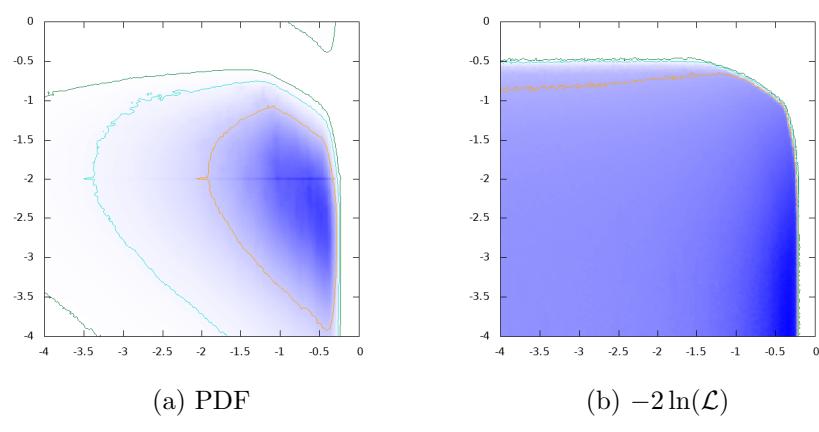


Figure 35:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$

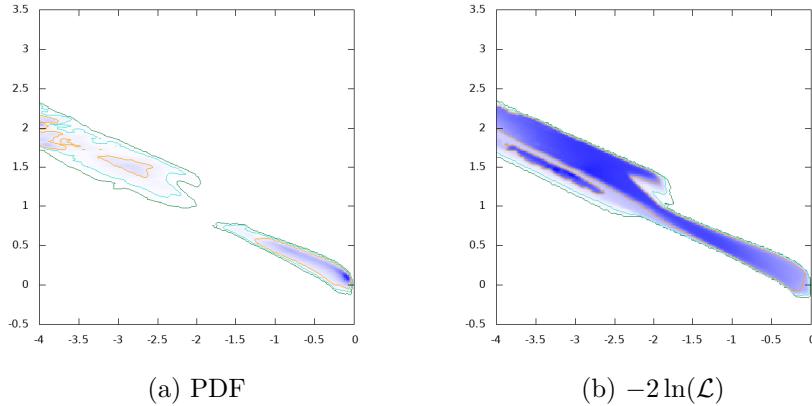


Figure 36:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow tb)$

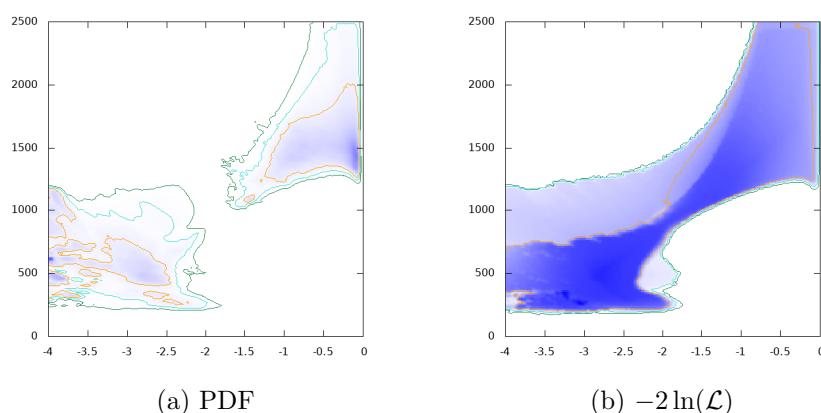


Figure 37:  $m_{H^\pm}$  GeV vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

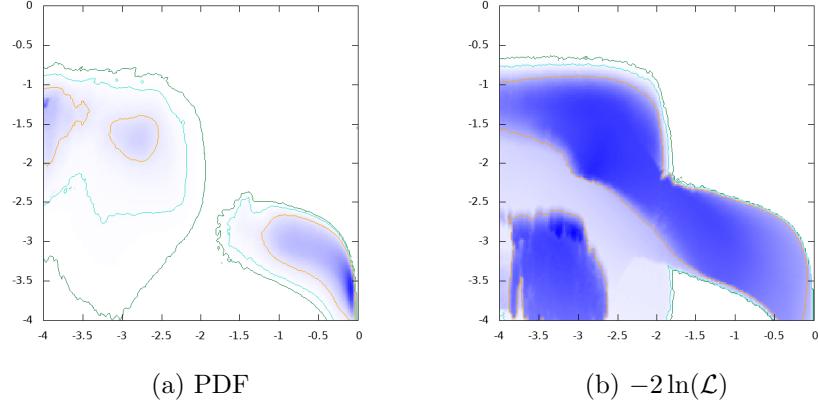


Figure 38:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

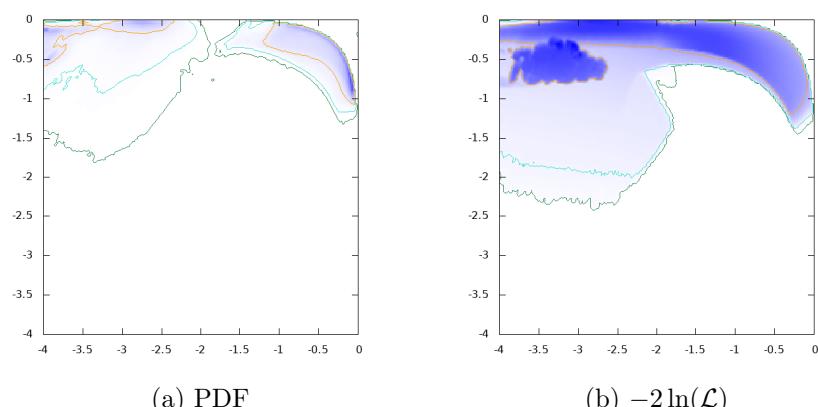


Figure 39:  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

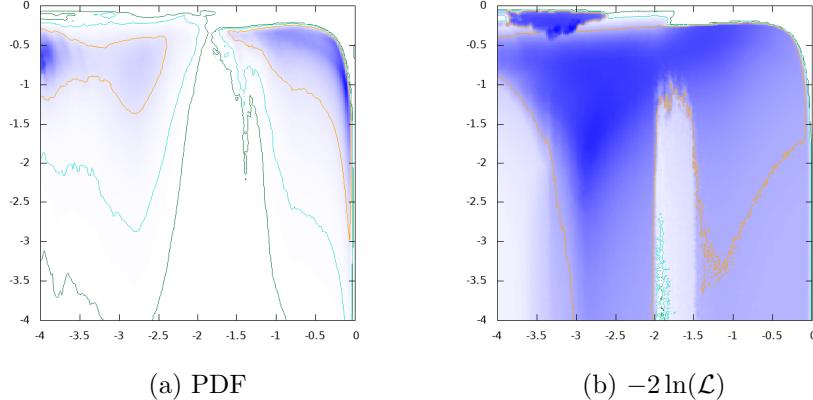


Figure 40:  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

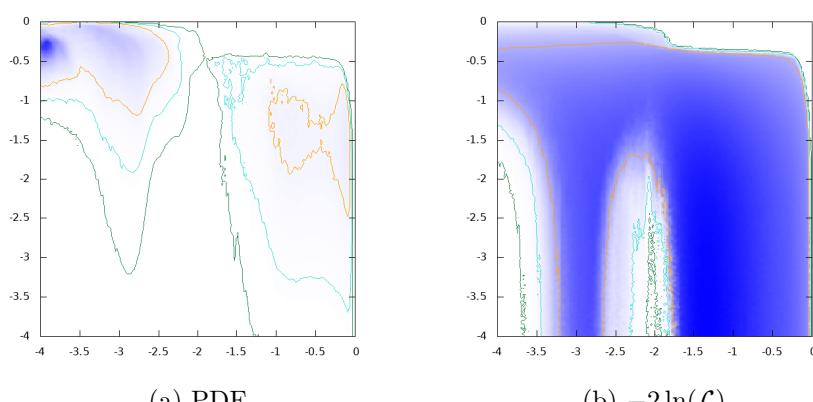


Figure 41:  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

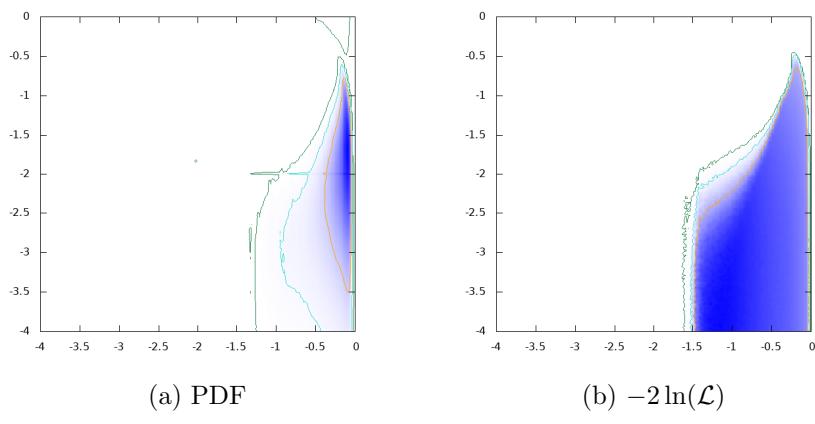


Figure 42:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$

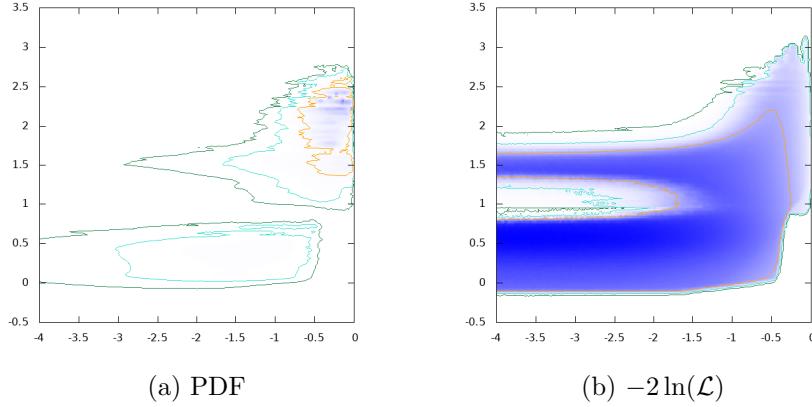


Figure 43:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$

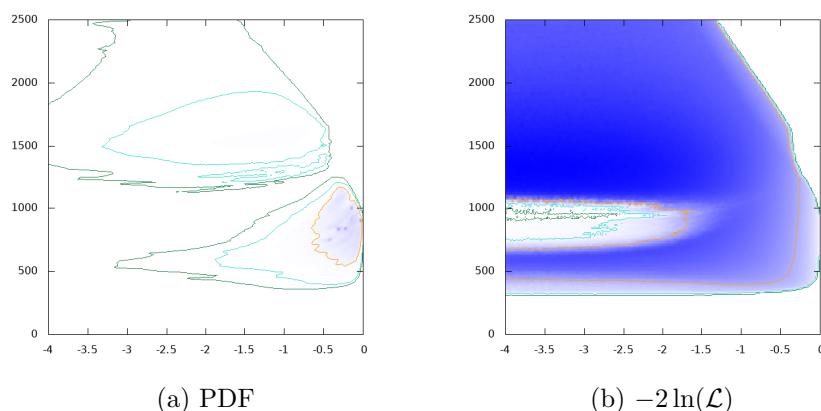


Figure 44:  $m_{H^\pm} \text{ GeV}$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$

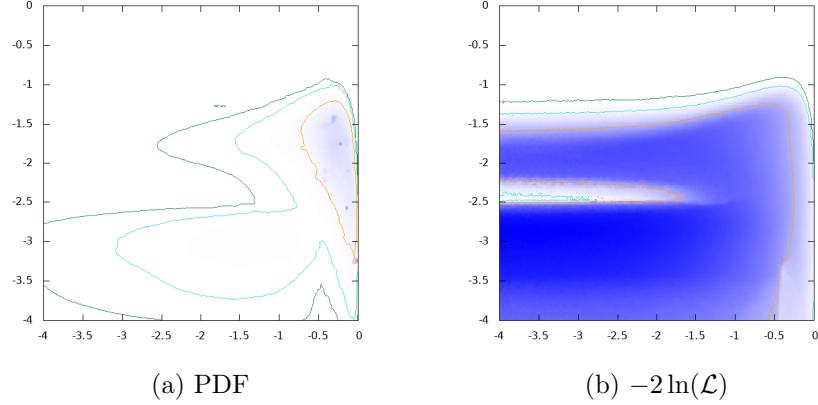


Figure 45:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$

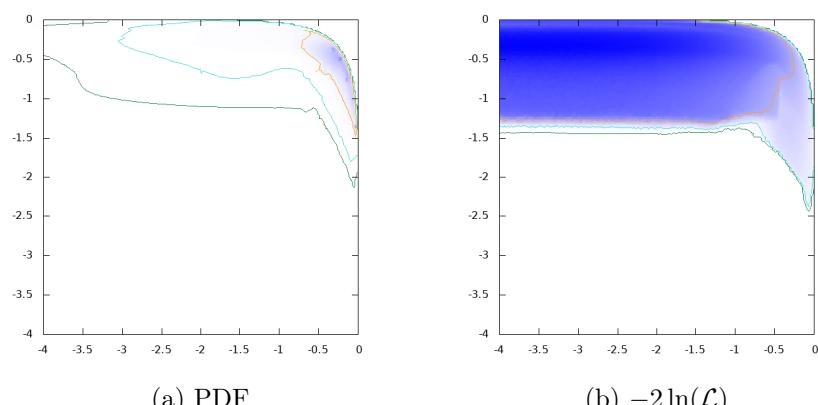


Figure 46:  $\log_{10} \text{BR}(H^\pm \rightarrow \mu^\pm \nu)$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$

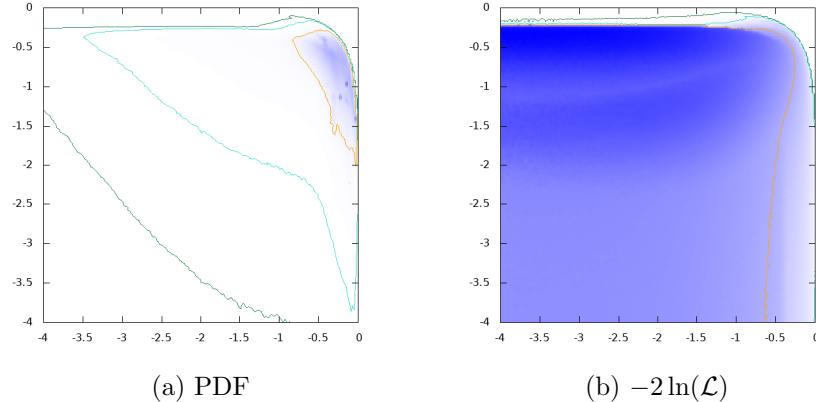


Figure 47:  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$

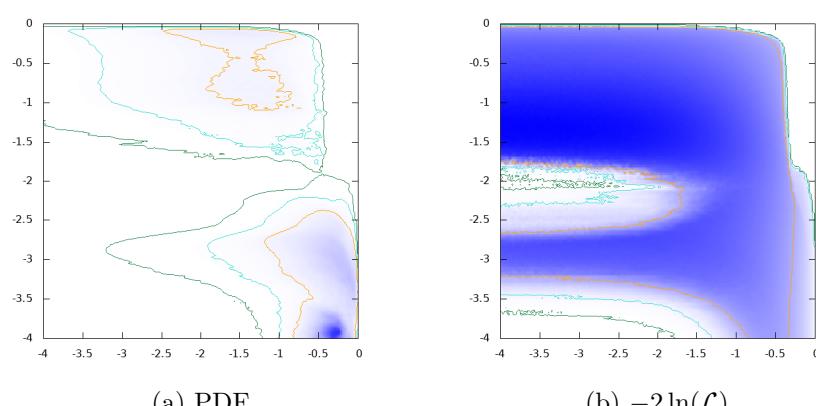


Figure 48:  $\log_{10} \text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$

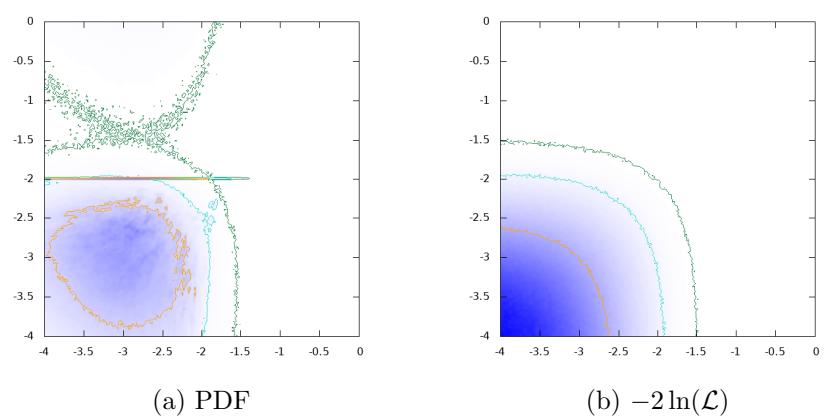


Figure 49:  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow HW^\pm)$

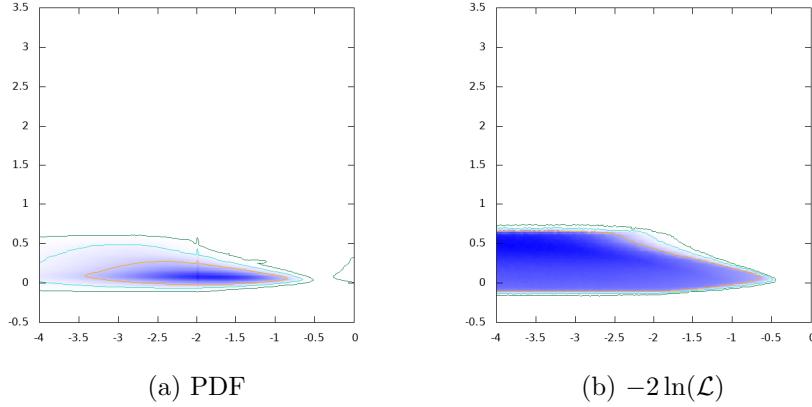


Figure 50:  $\log_{10} \tan \beta$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$

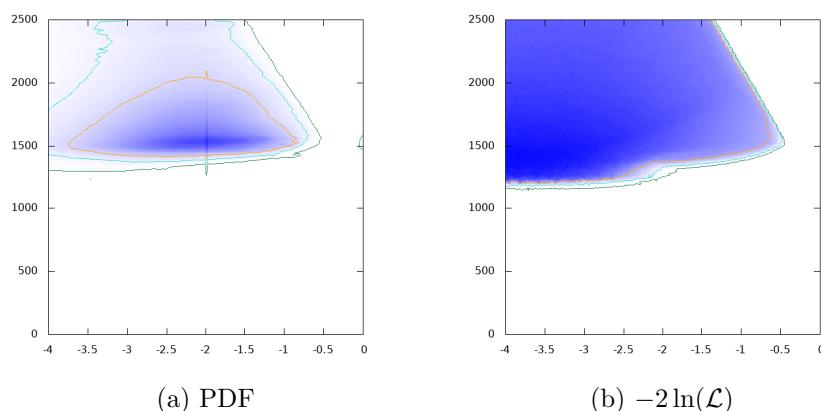


Figure 51:  $m_{H^\pm}$  GeV vs.  $\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$

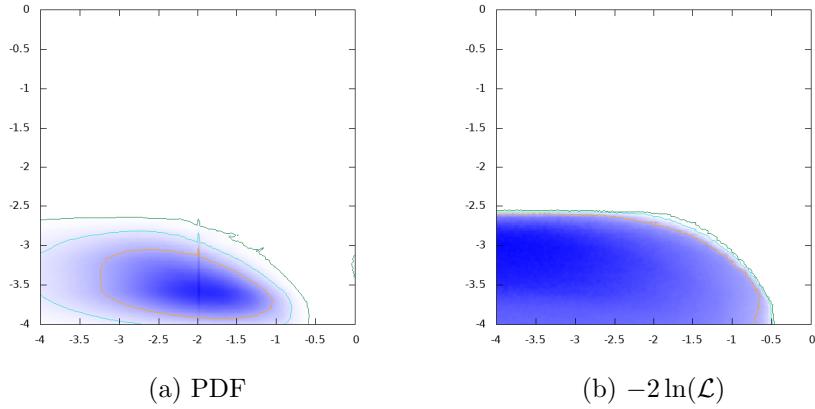


Figure 52:  $\log_{10}\text{BR}(H^\pm \rightarrow e^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$

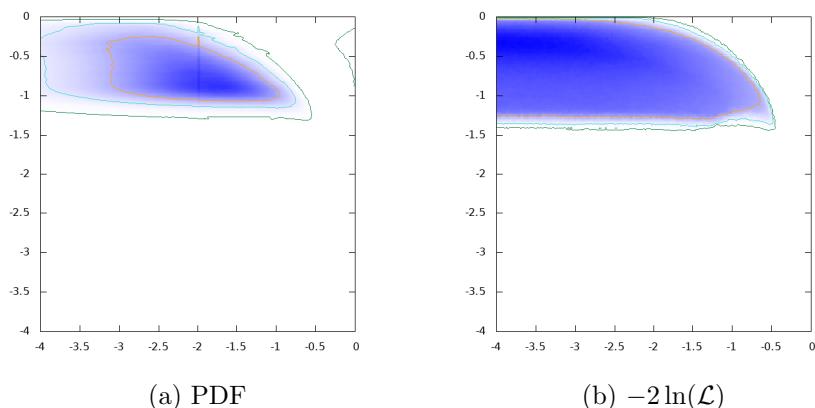


Figure 53:  $\log_{10}\text{BR}(H^\pm \rightarrow \mu^\pm\nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$

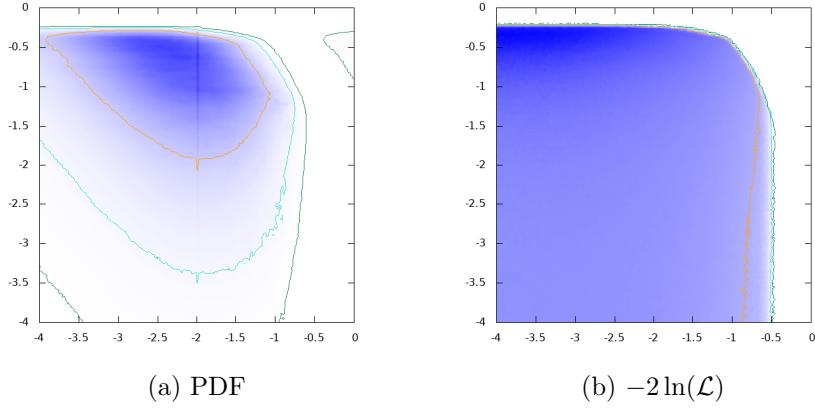


Figure 54:  $\log_{10}\text{BR}(H^\pm \rightarrow \tau^\pm \nu)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$

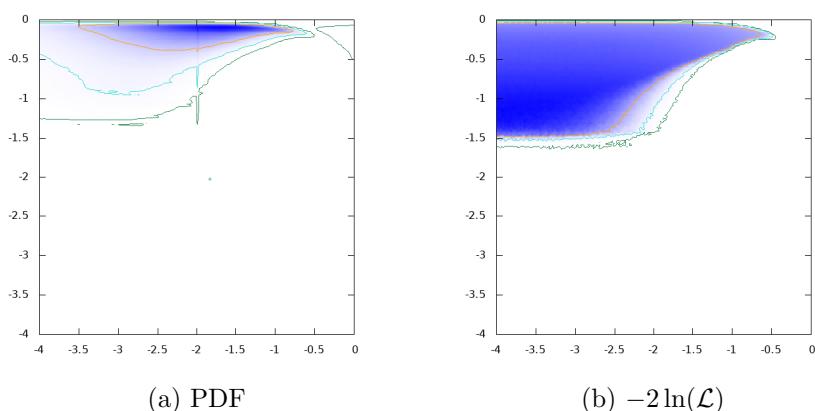


Figure 55:  $\log_{10}\text{BR}(H^\pm \rightarrow tb)$  vs.  $\log_{10}\text{BR}(H^\pm \rightarrow AW^\pm)$

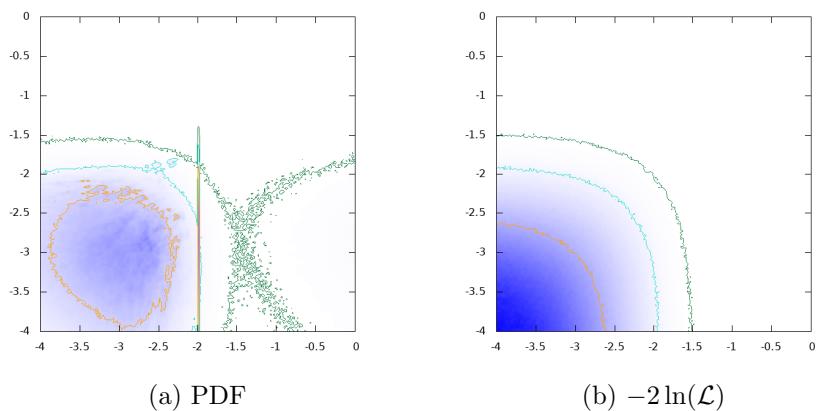


Figure 56:  $\log_{10} \text{BR}(H^\pm \rightarrow HW^\pm)$  vs.  $\log_{10} \text{BR}(H^\pm \rightarrow AW^\pm)$