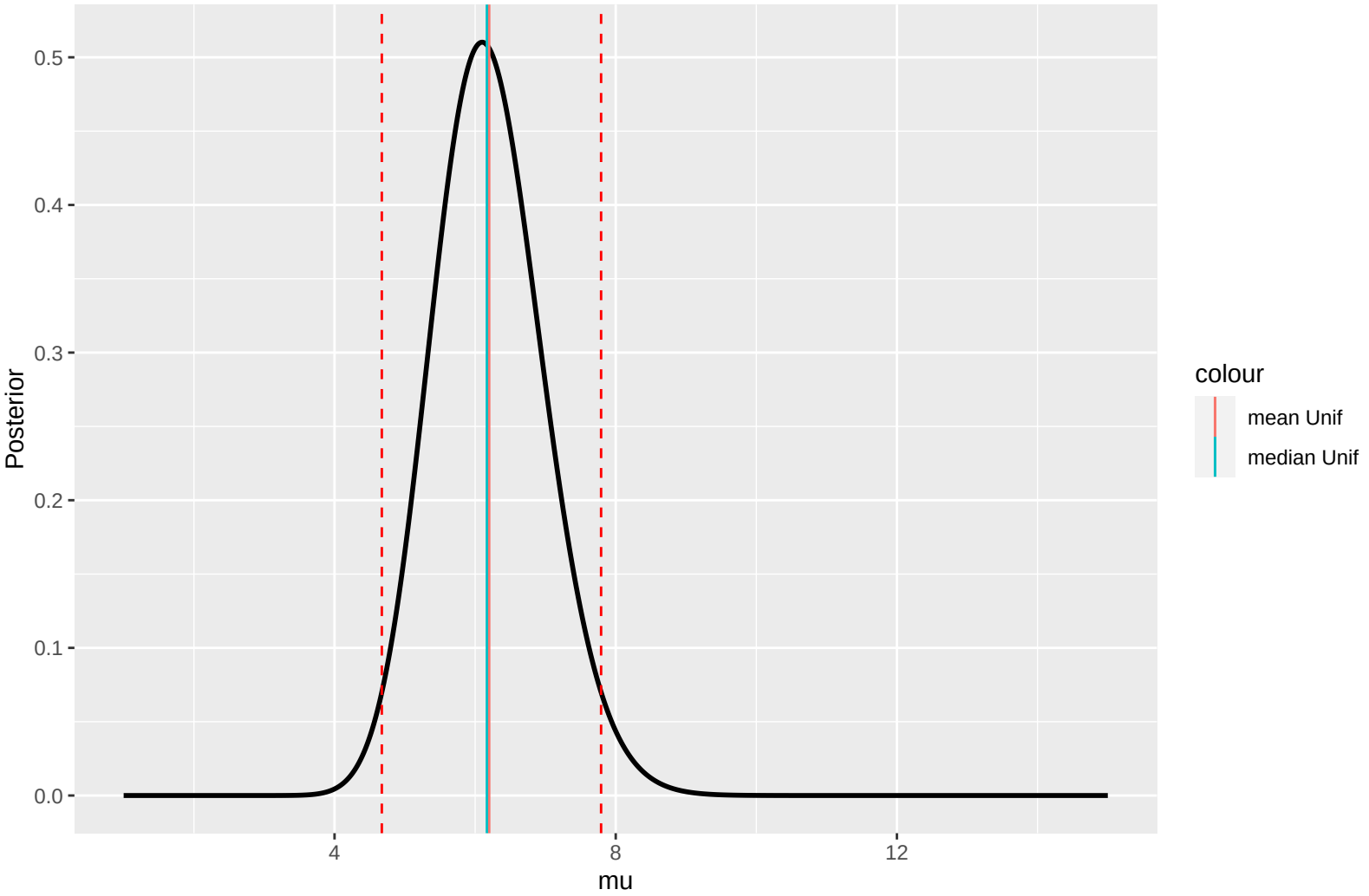
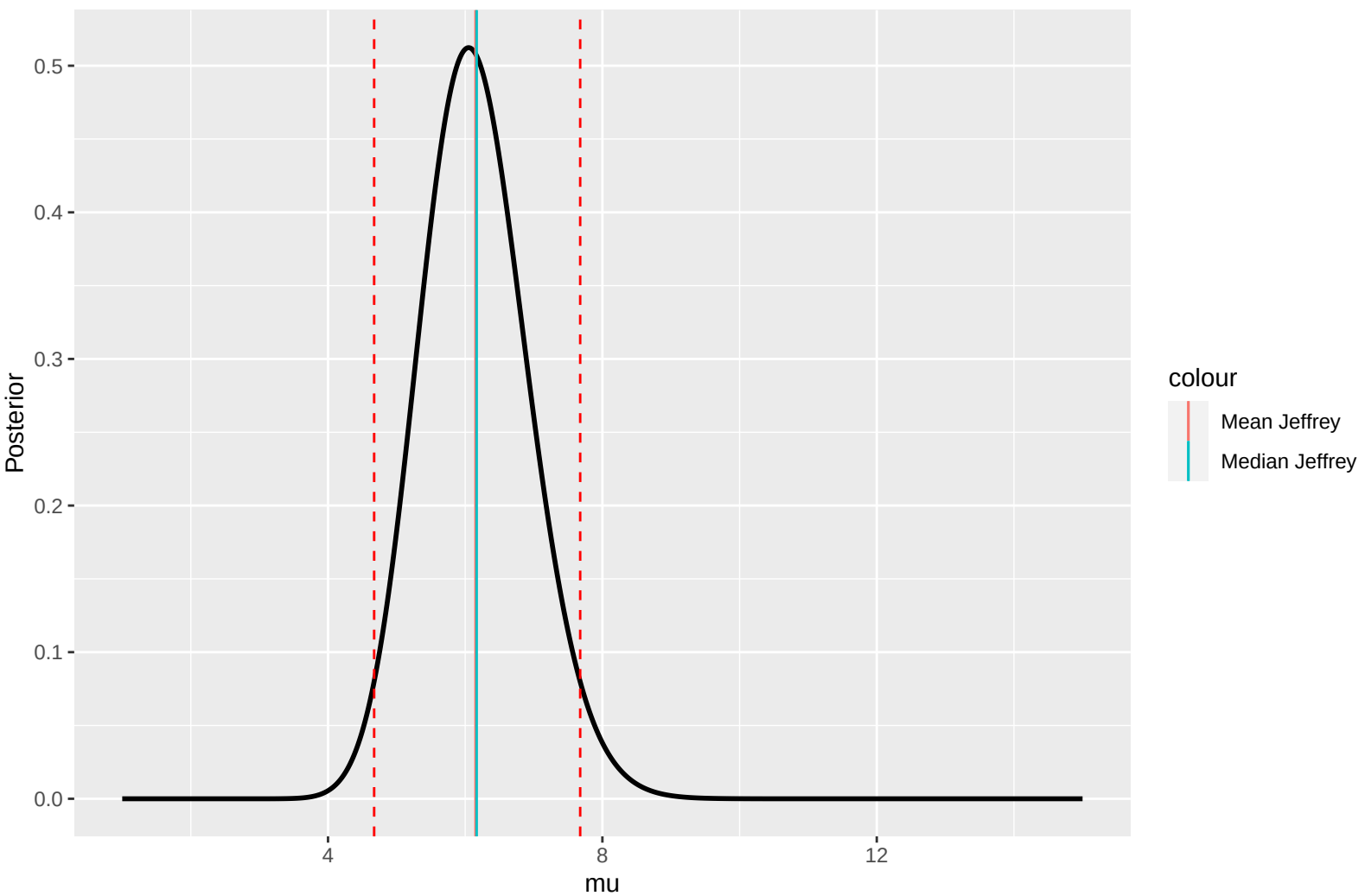
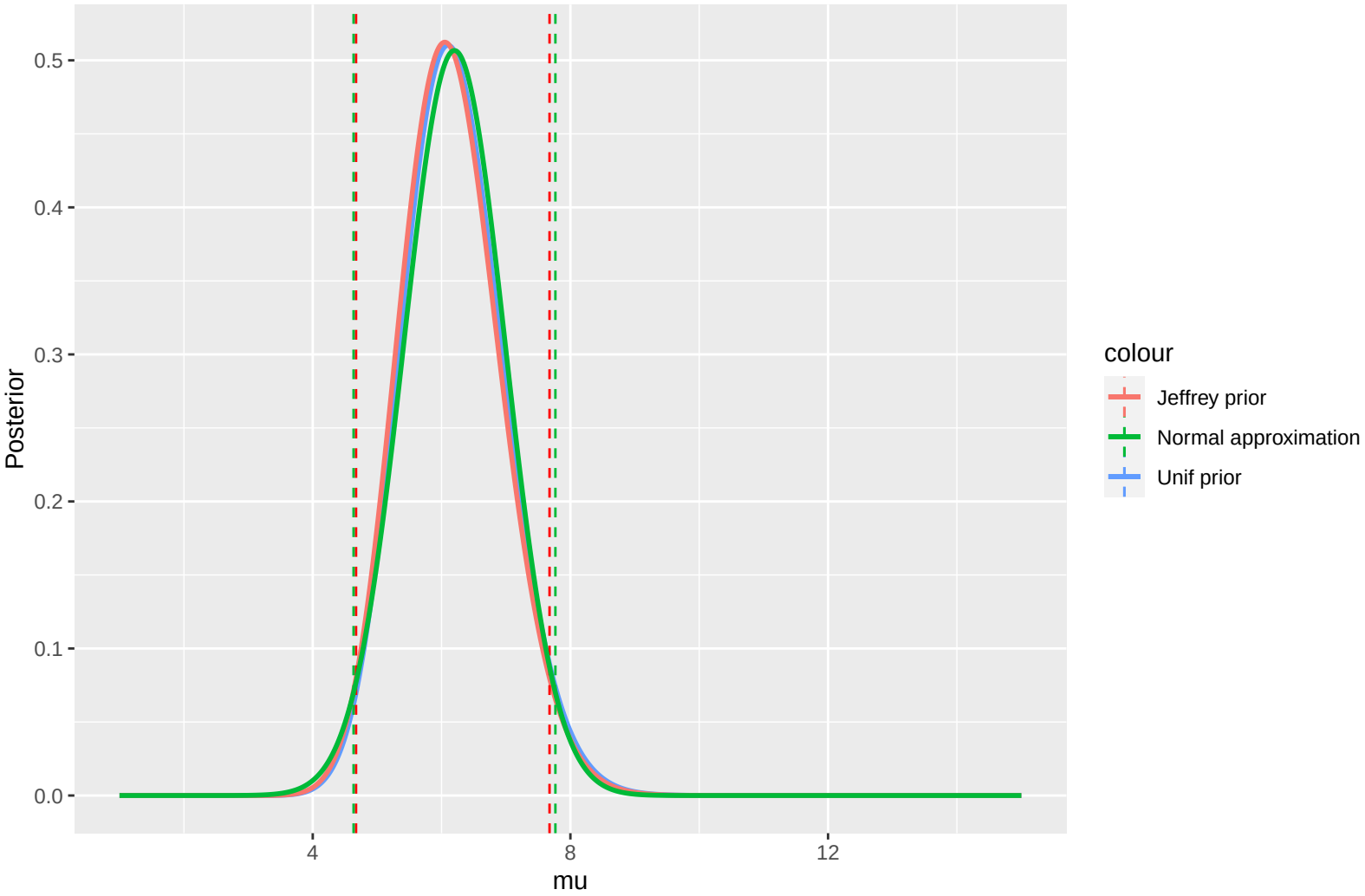
Ex 1.1) Posterior w/ uniform prior



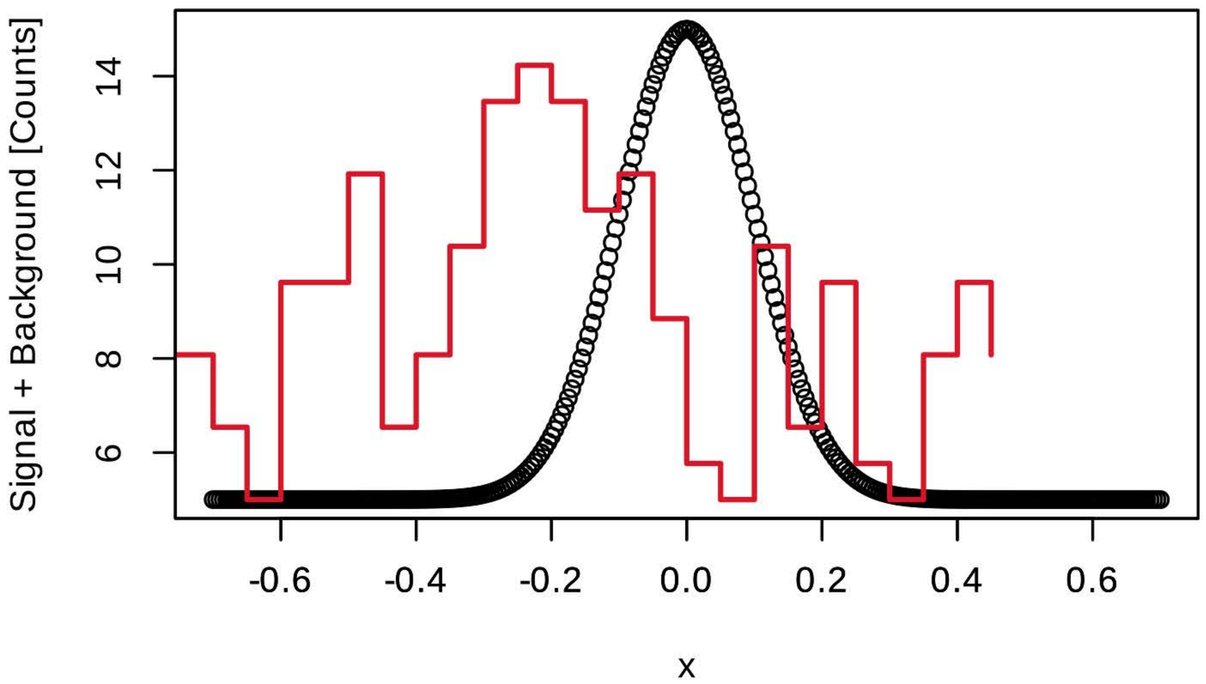
Ex 1.2) Posterior w/ Jeffrey's prior

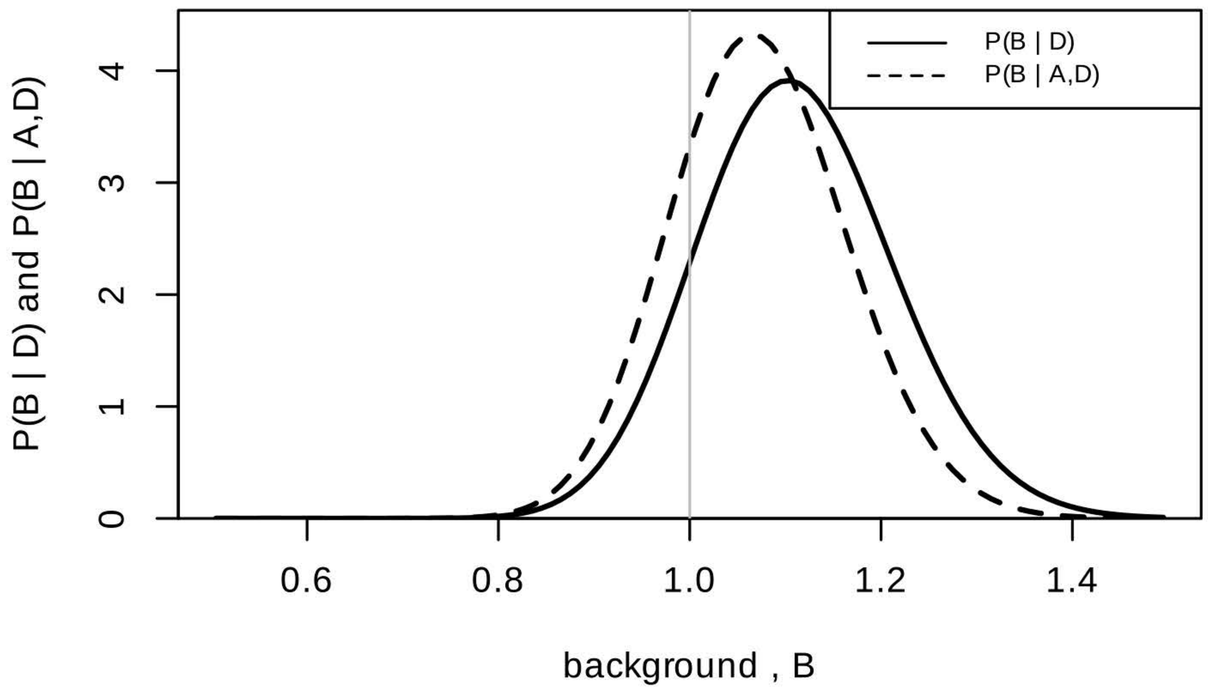


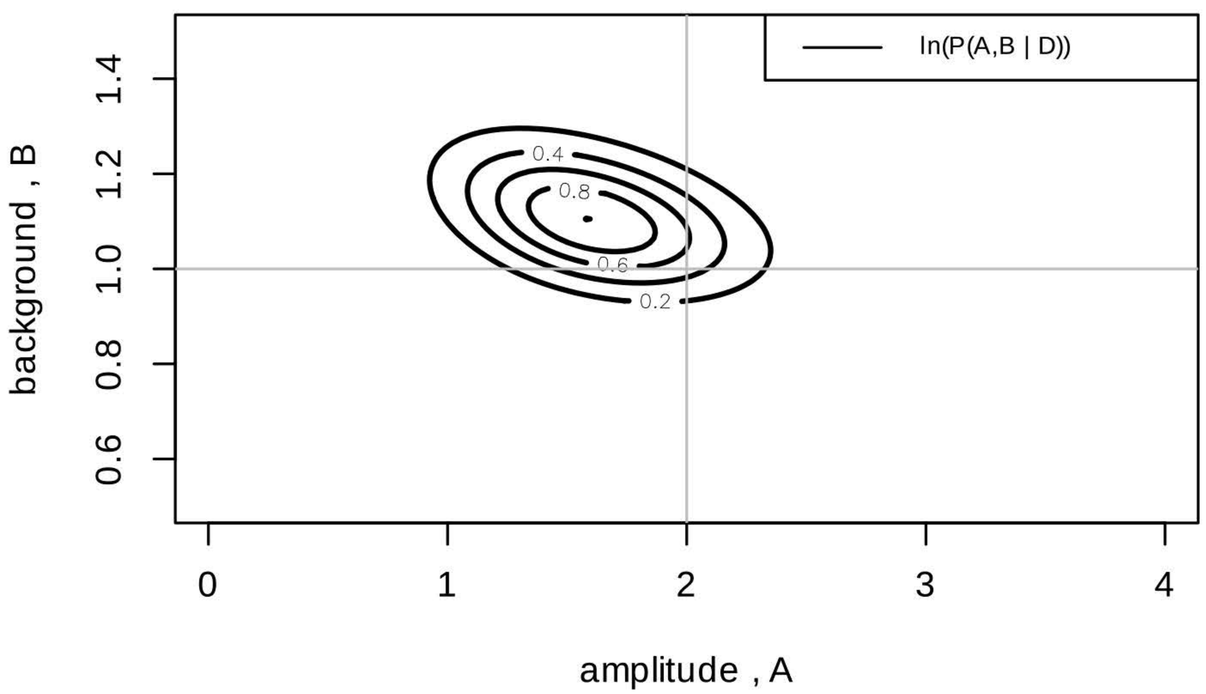
Ex 1.3) Normal approximation

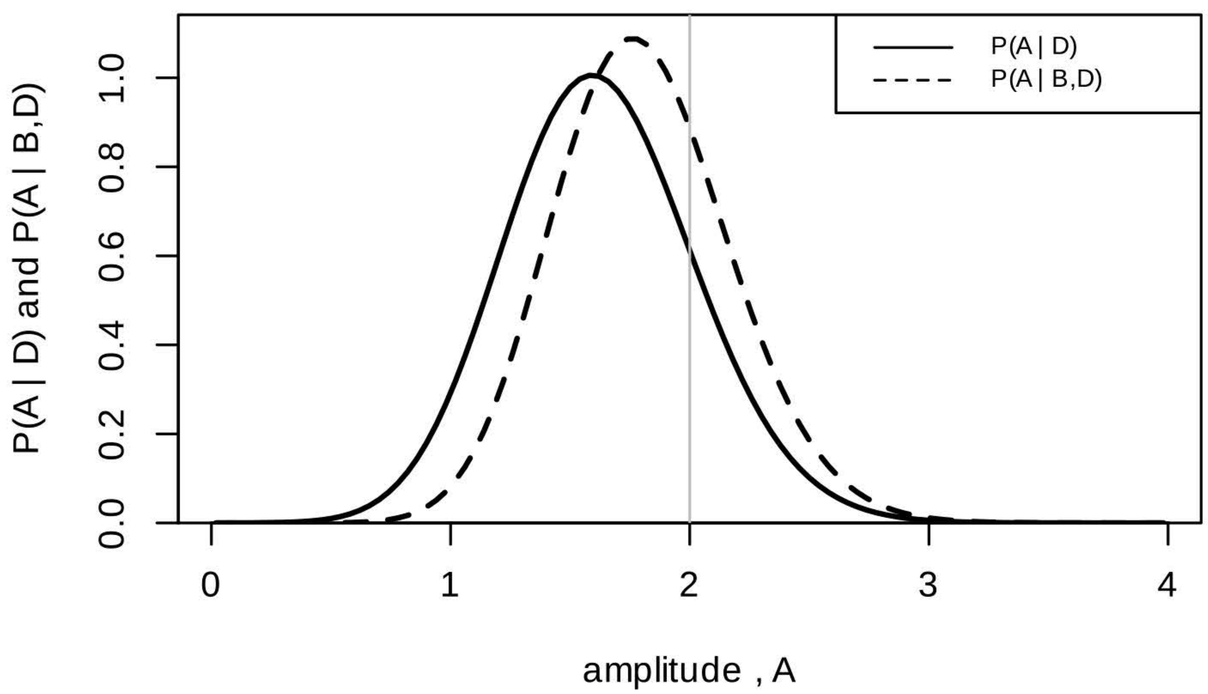


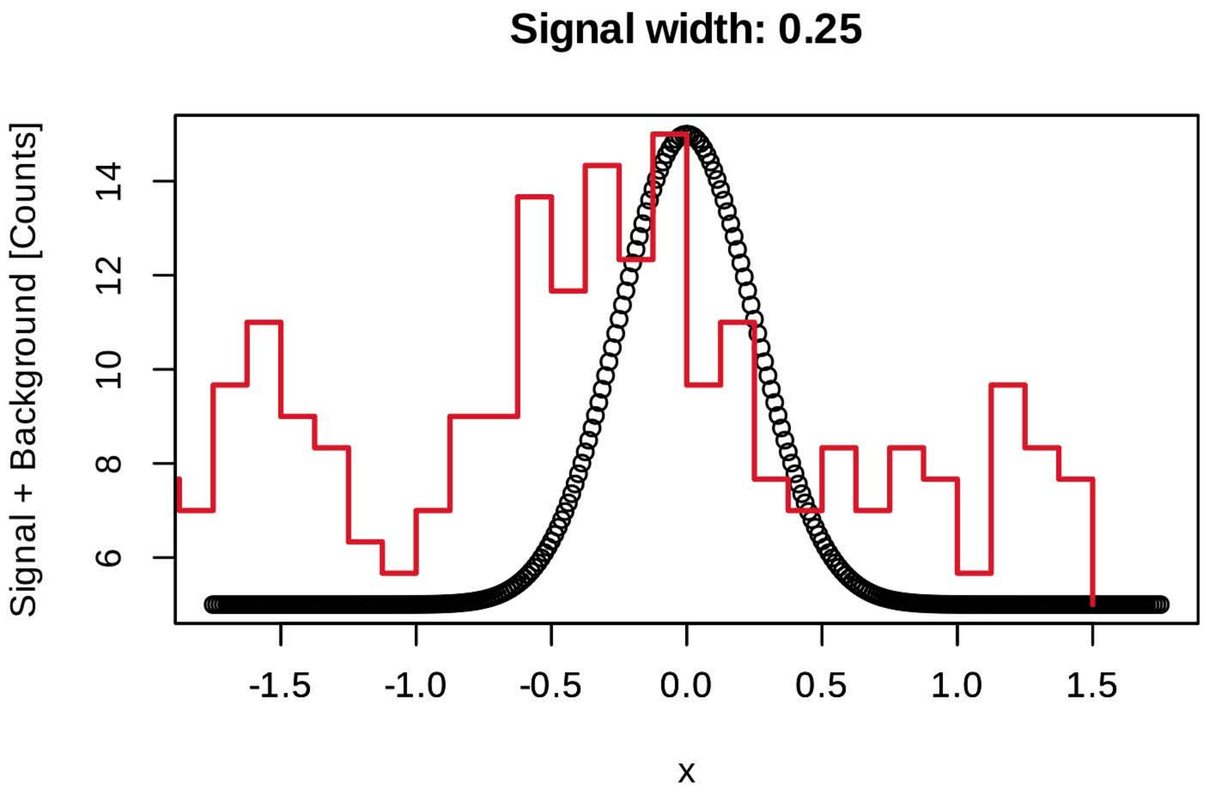
Signal width: 0.1

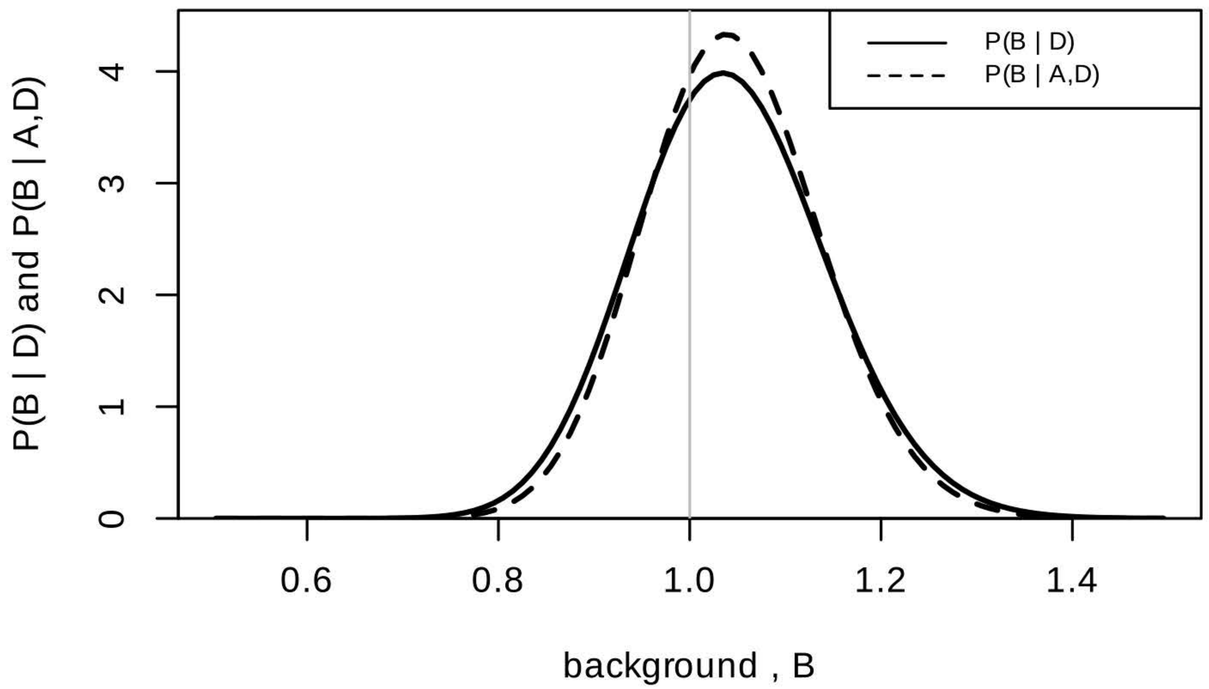


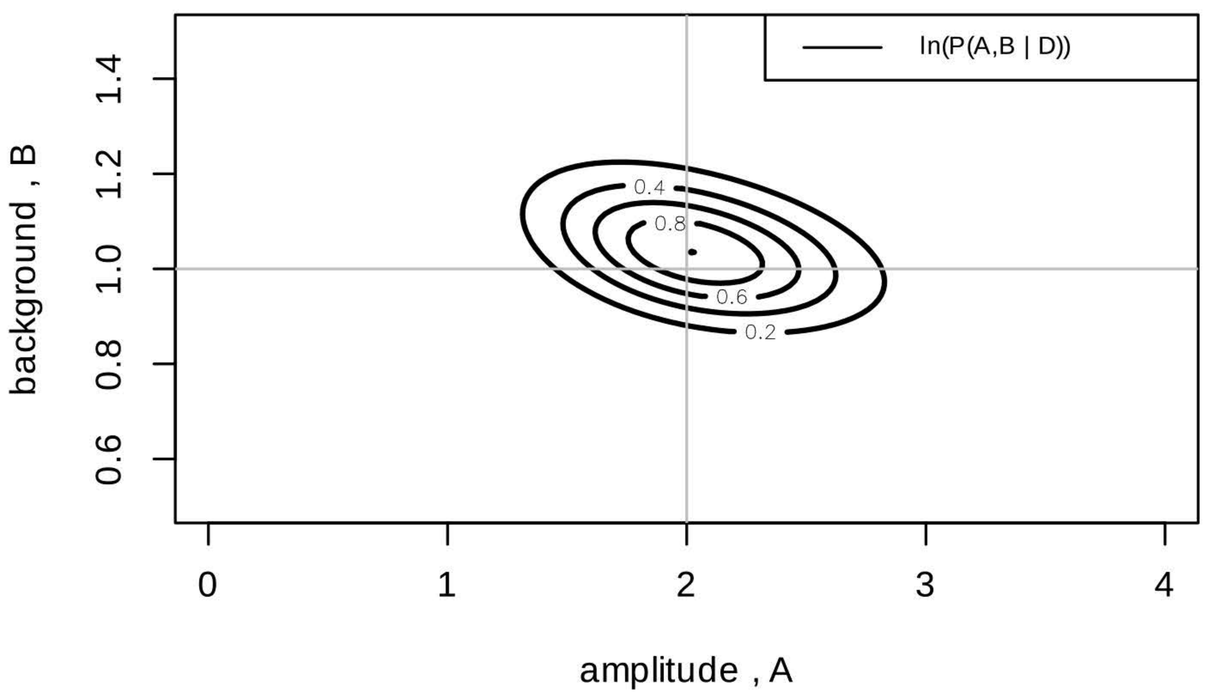


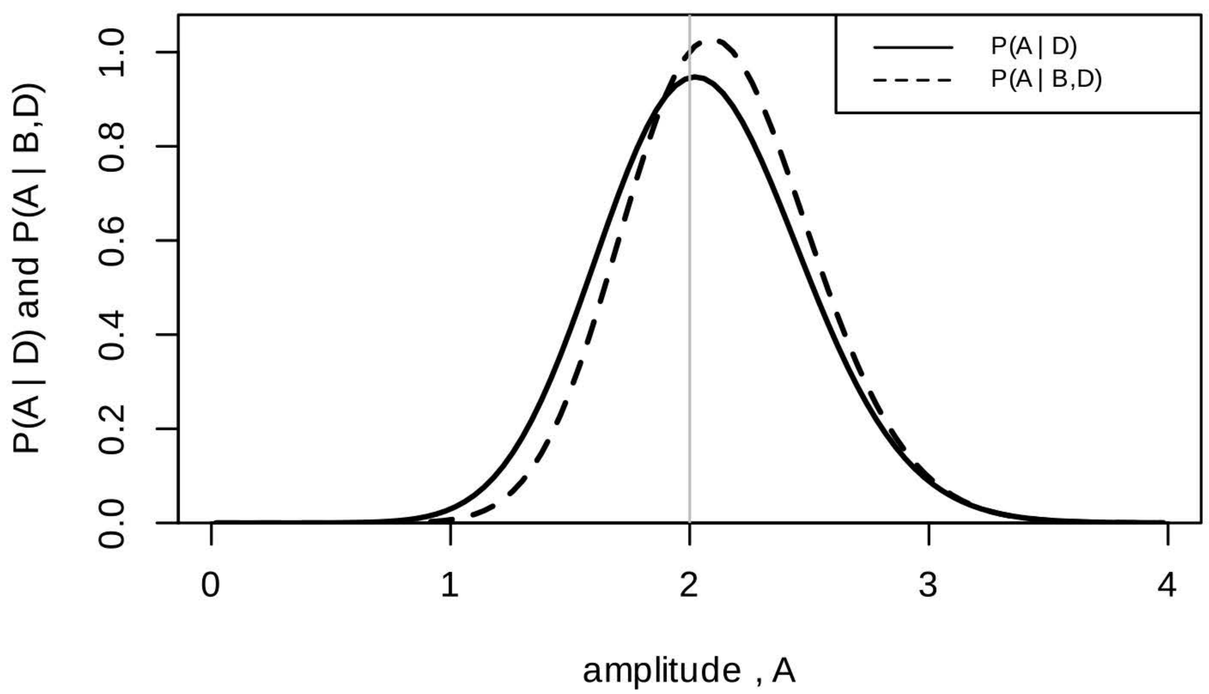




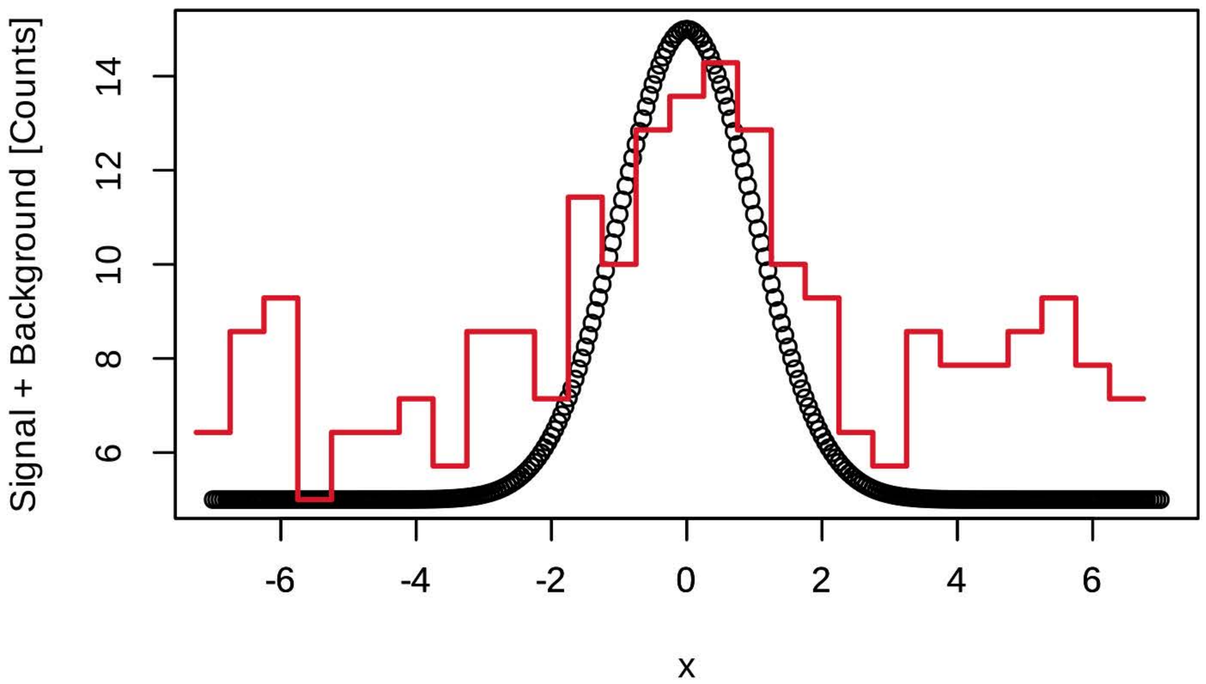

Signal width: 0.25
Signal + Background [Counts]
6
8
10
12
14
-1.5
-1.0
-0.5
0.0
0.5
1.0
1.5
x

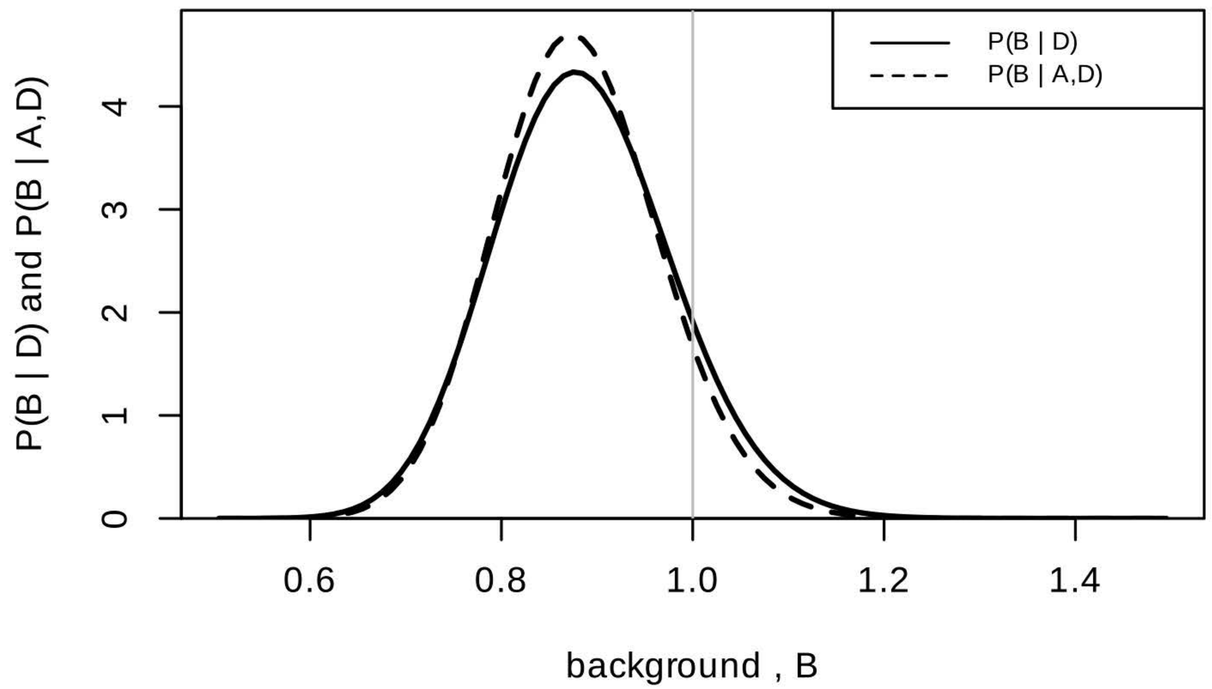

P(B | D)
P(B | A,D)
P(B | D) and P(B | A,D)
0
1
2
3
4
0.6
0.8
1.0
1.2
1.4
background , B

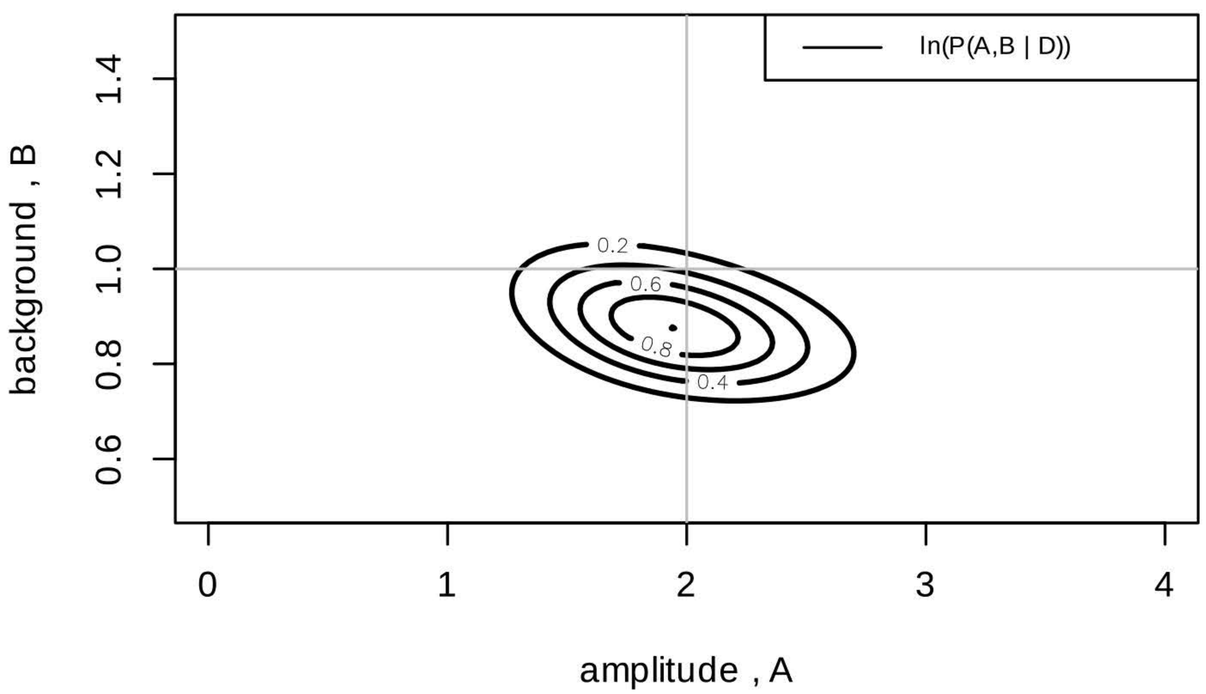

ln(P(A,B | D))
0.4
0.8
0.6
0.2
background , B
0.6
0.8
1.0
1.2
1.4
0
1
2
3
4
amplitude , A

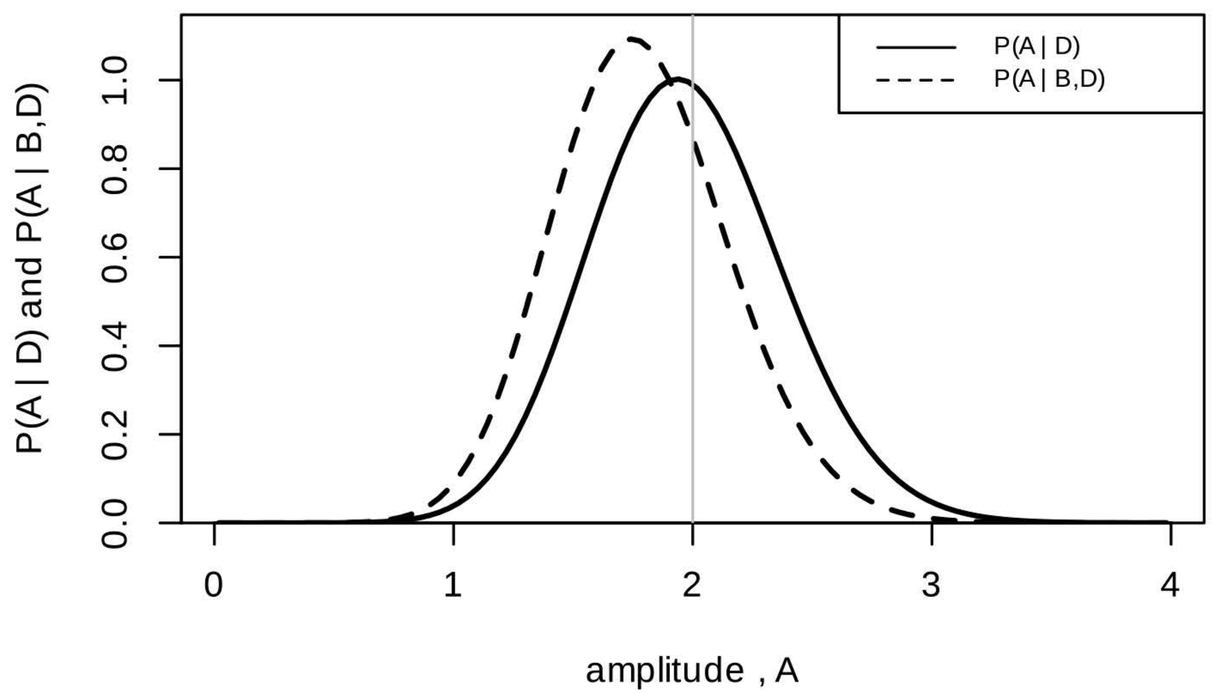

P(A | D)
P(A | B,D)
P(A | D) and P(A | B,D)
0.0
0.2
0.4
0.6
0.8
1.0
0
1
2
3
4
amplitude , A

Signal width: 1

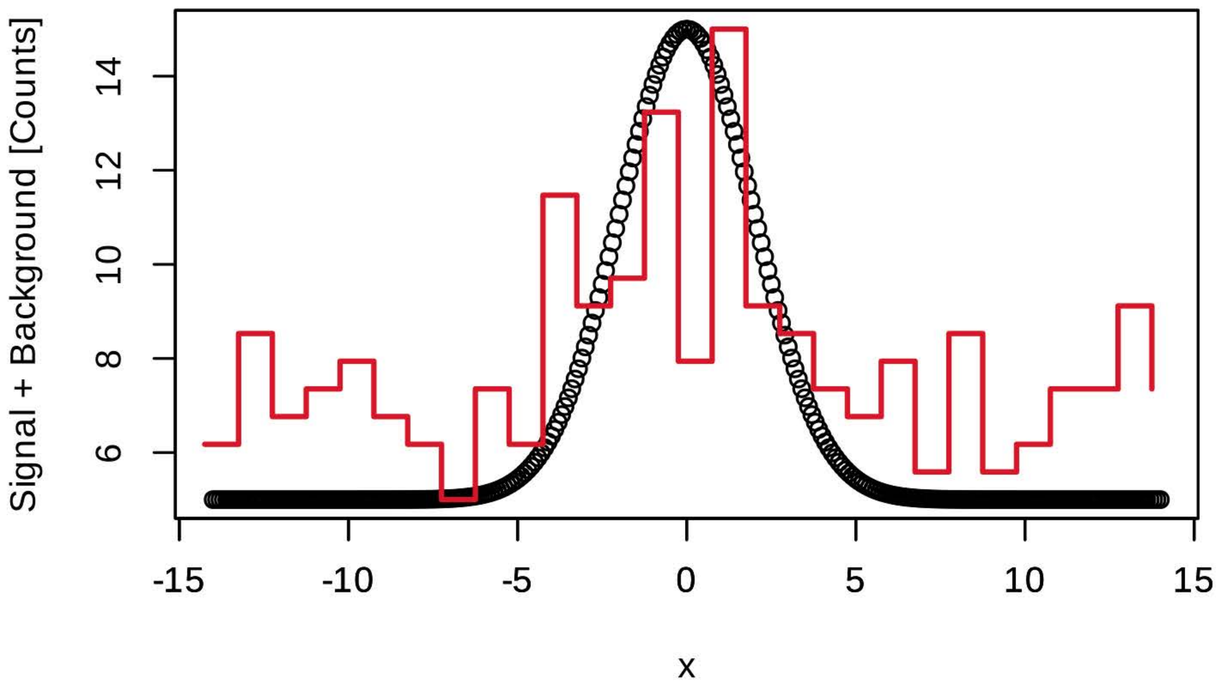


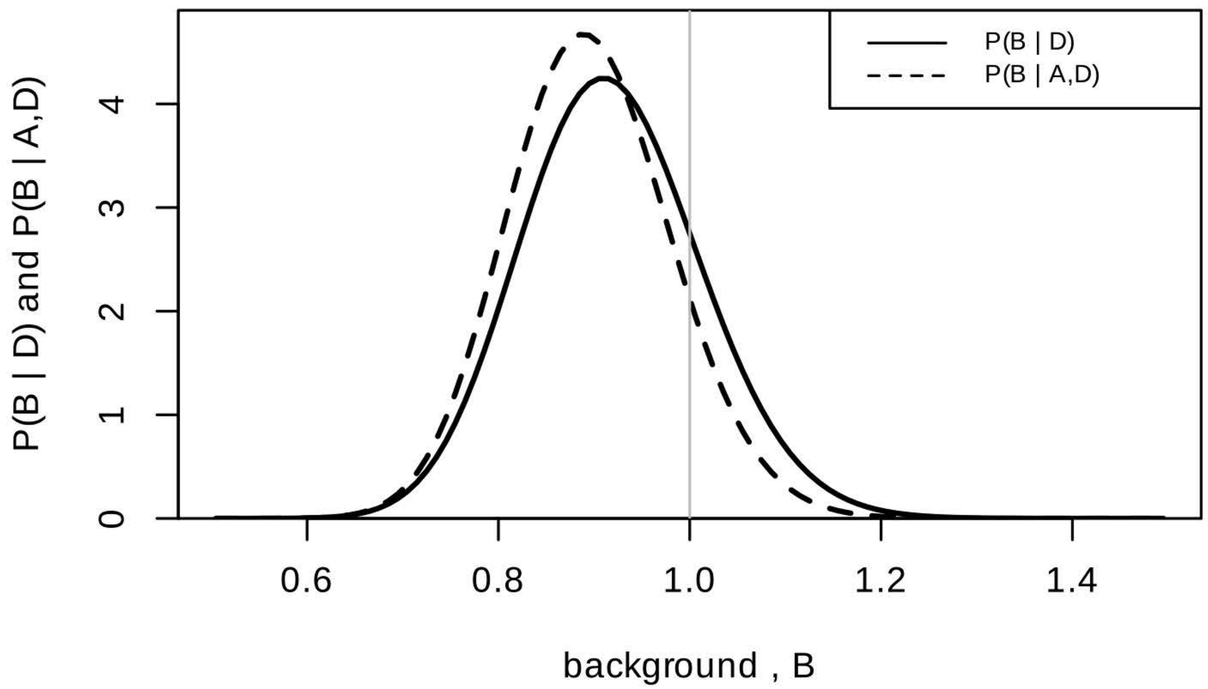


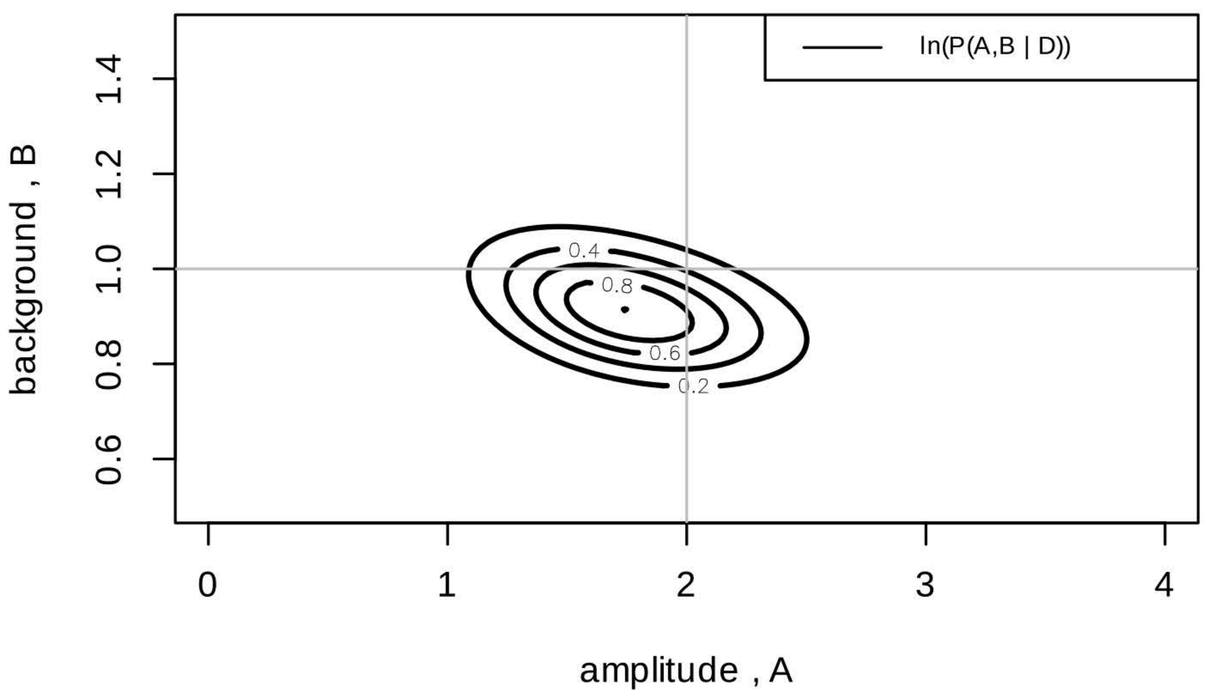


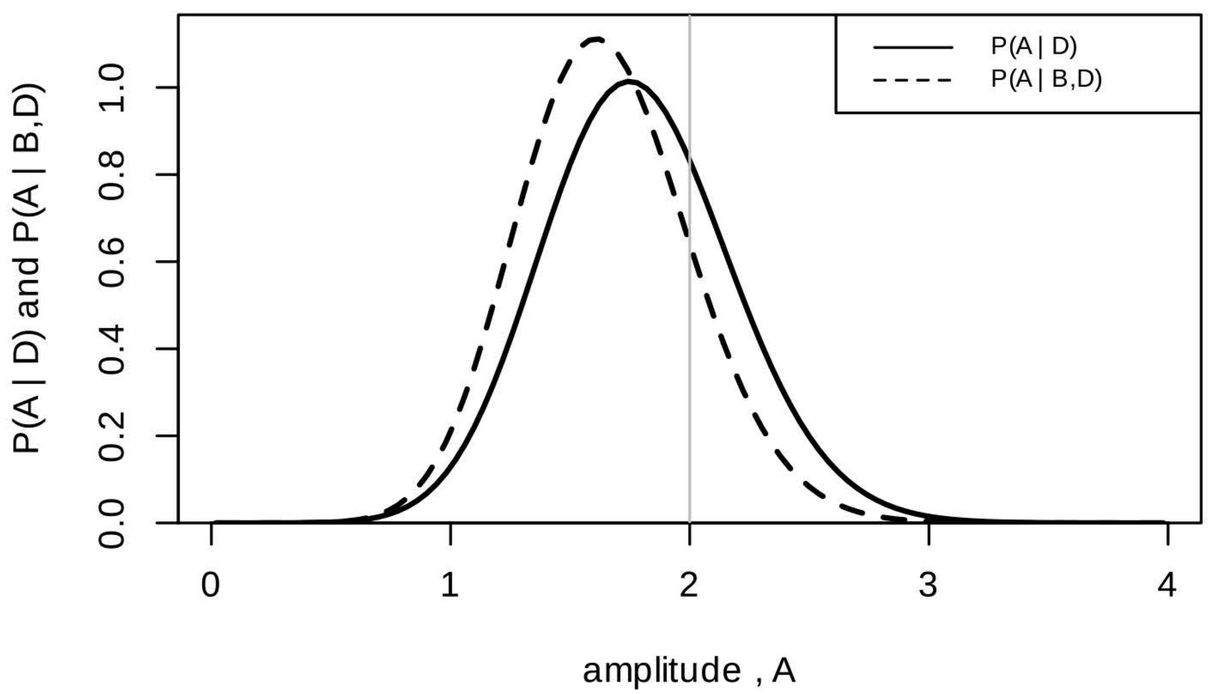


Signal width: 2

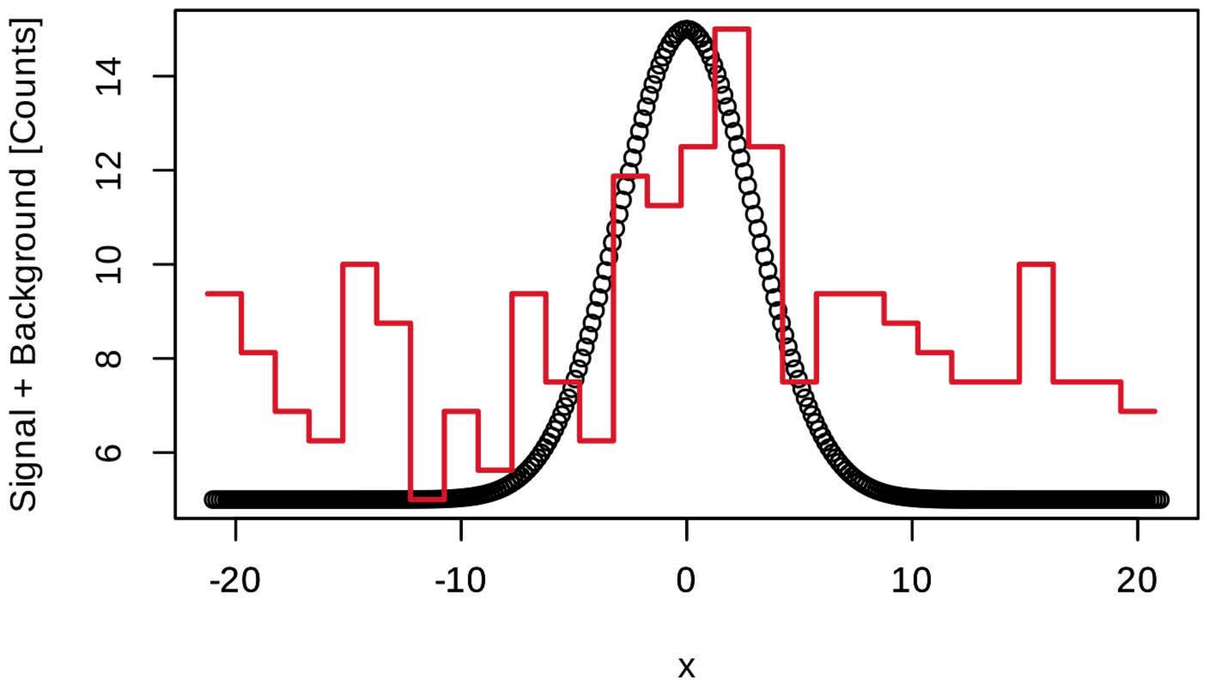


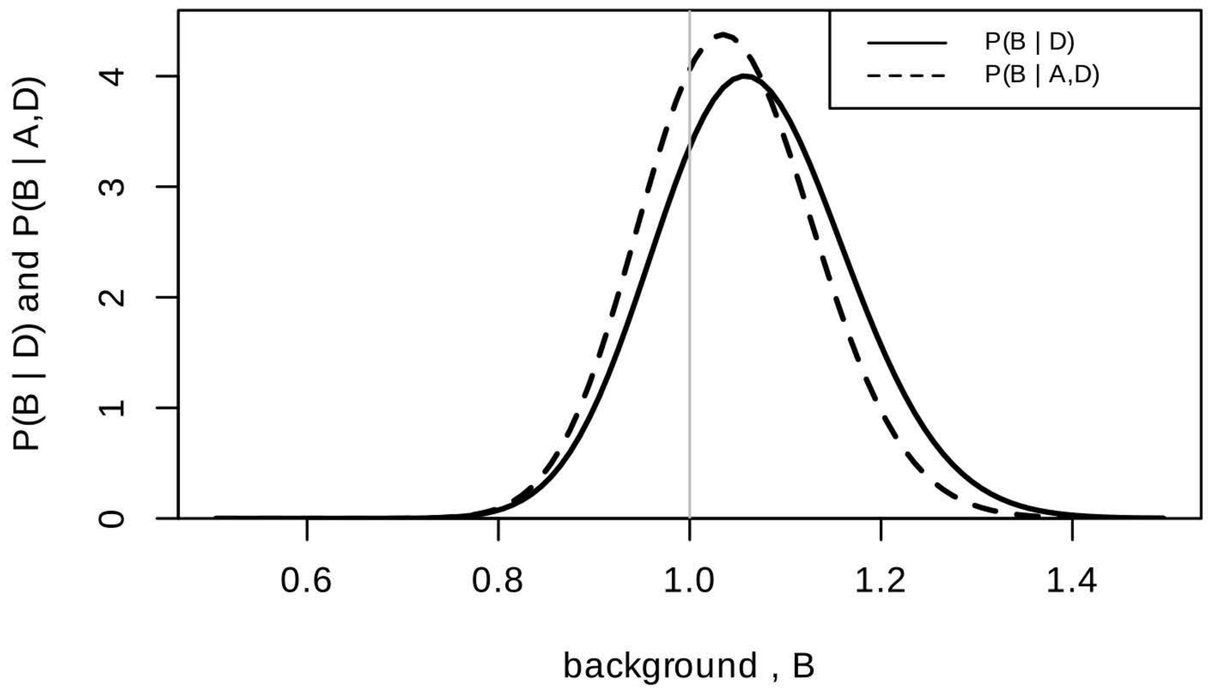


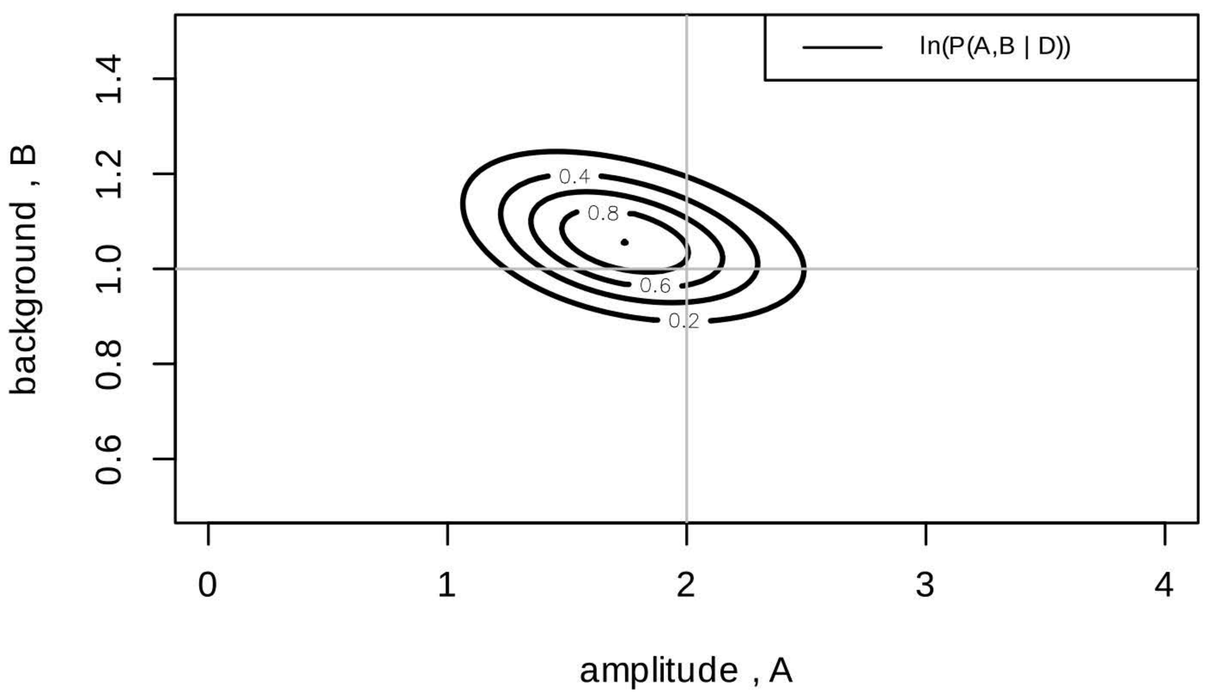


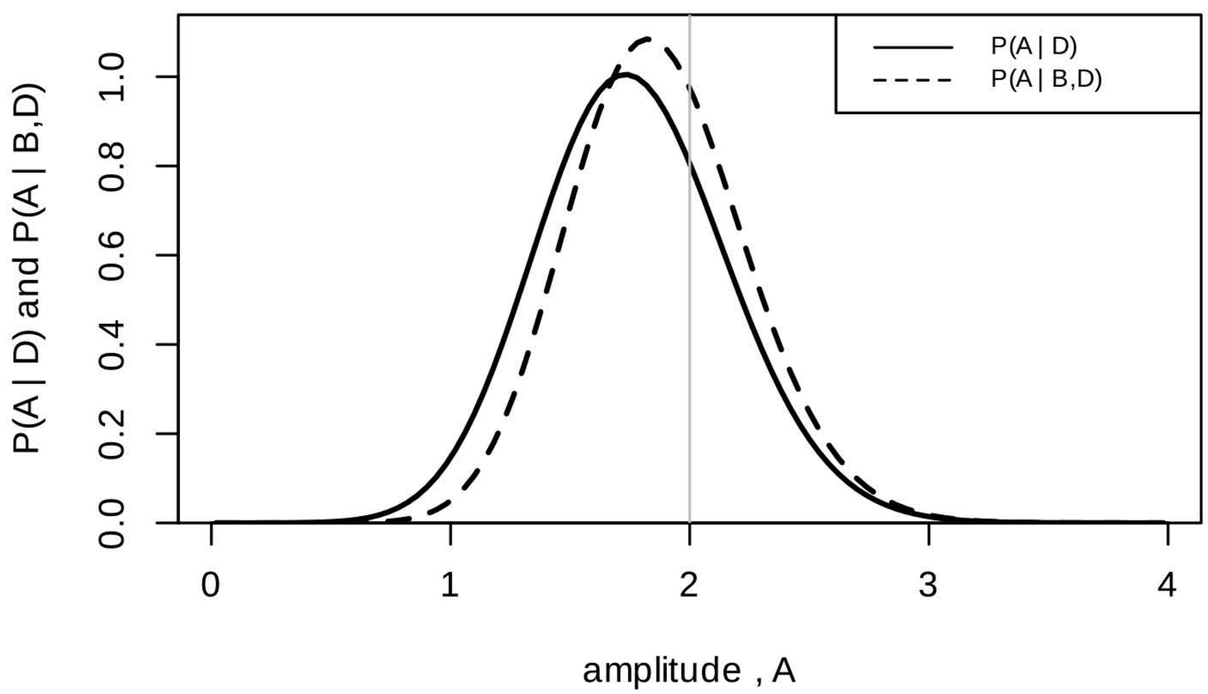


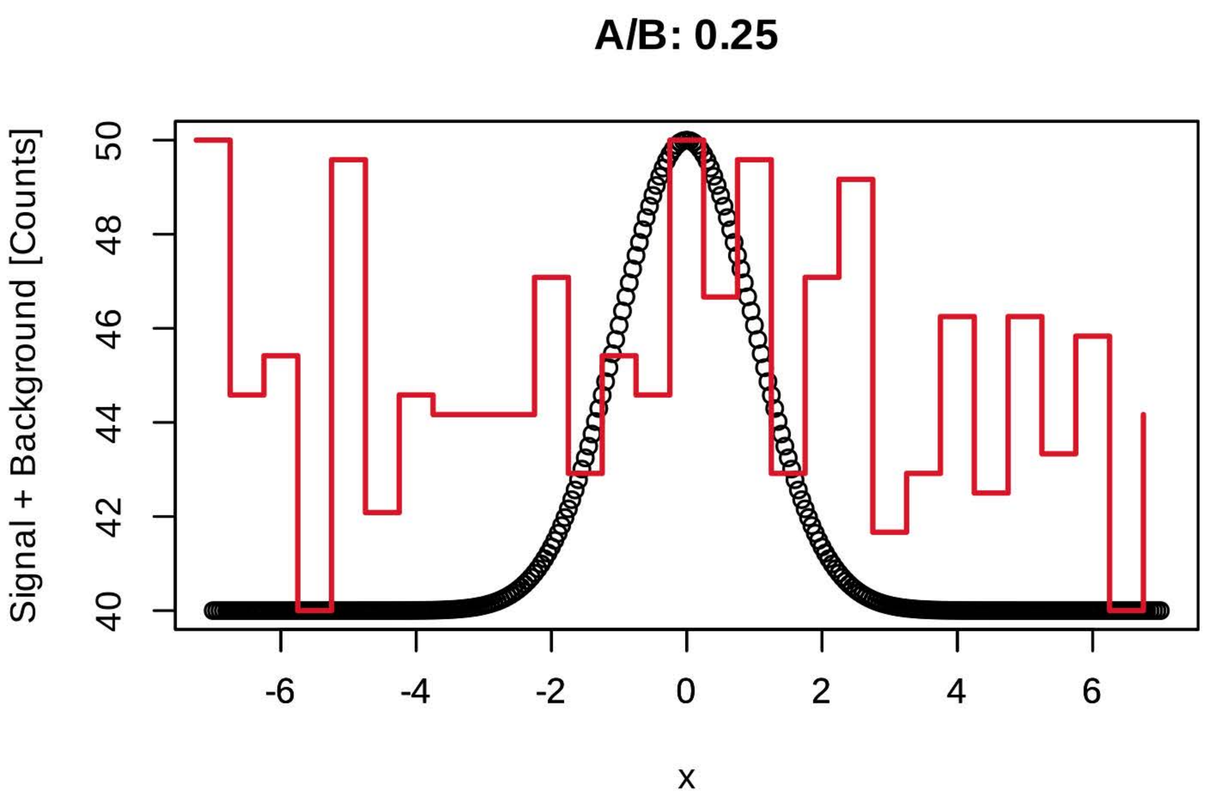
Signal width: 3

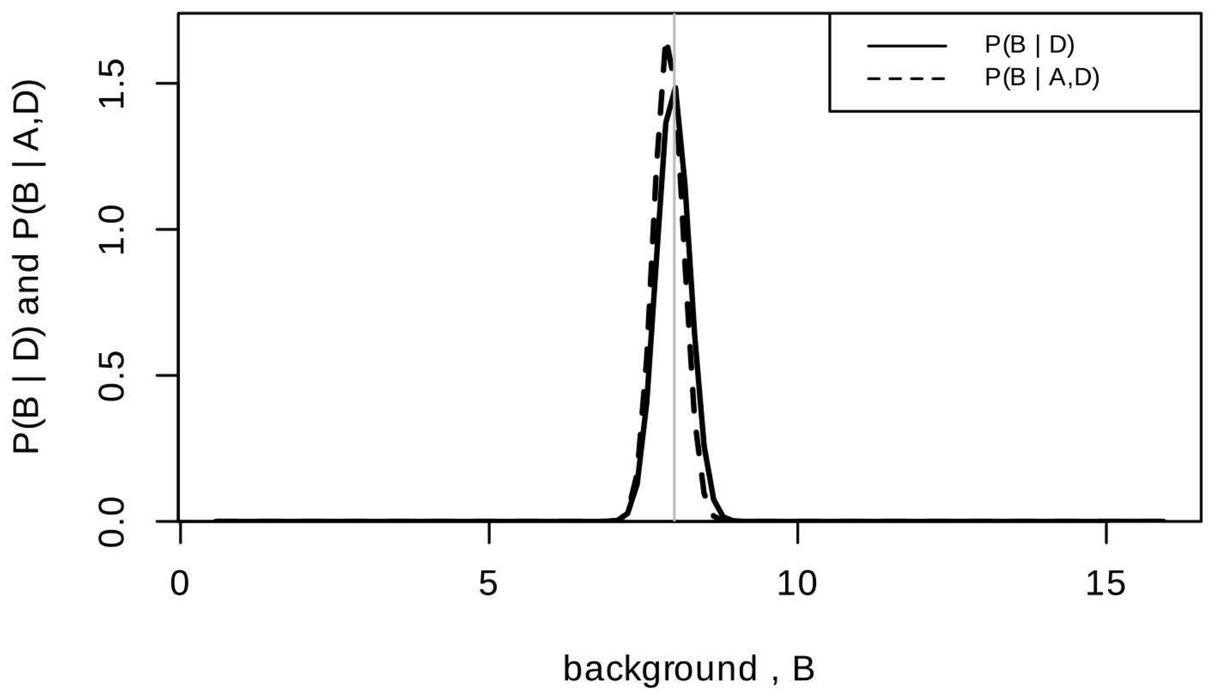


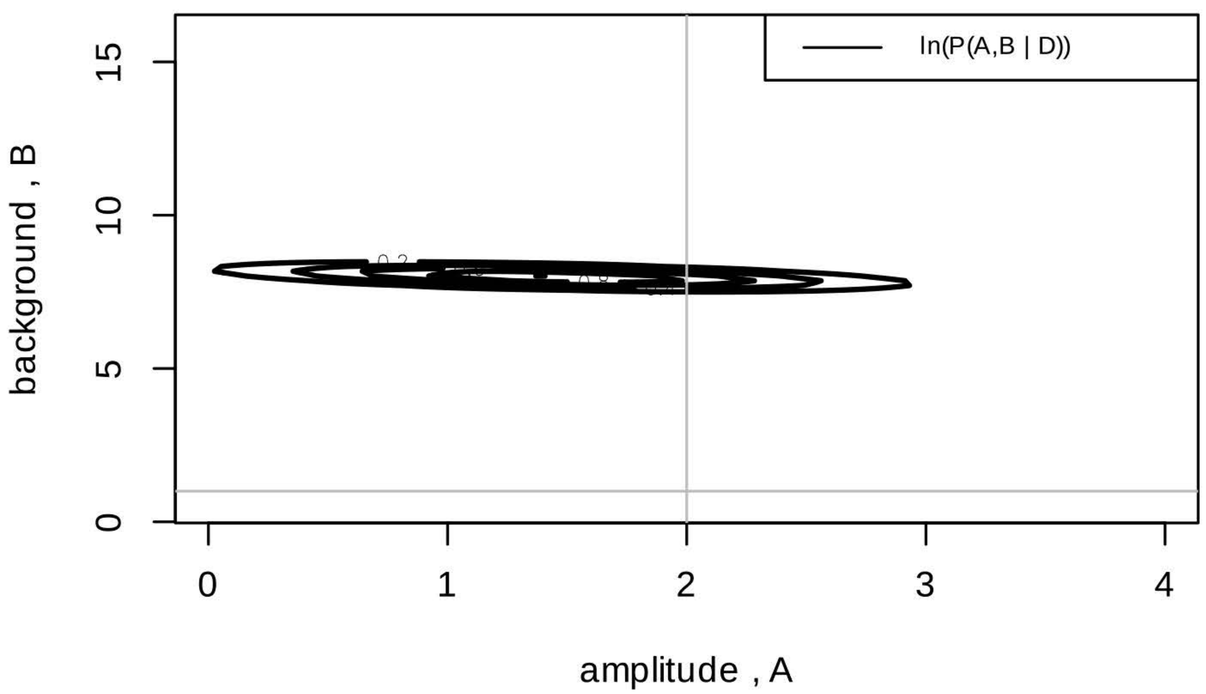


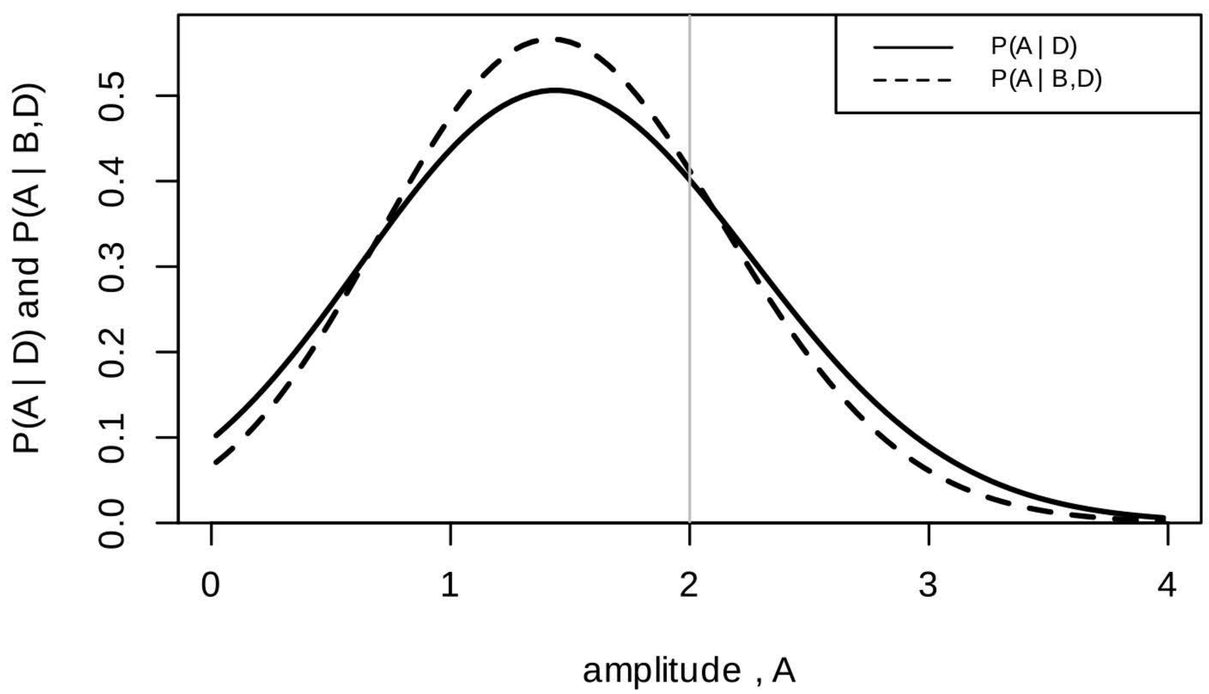


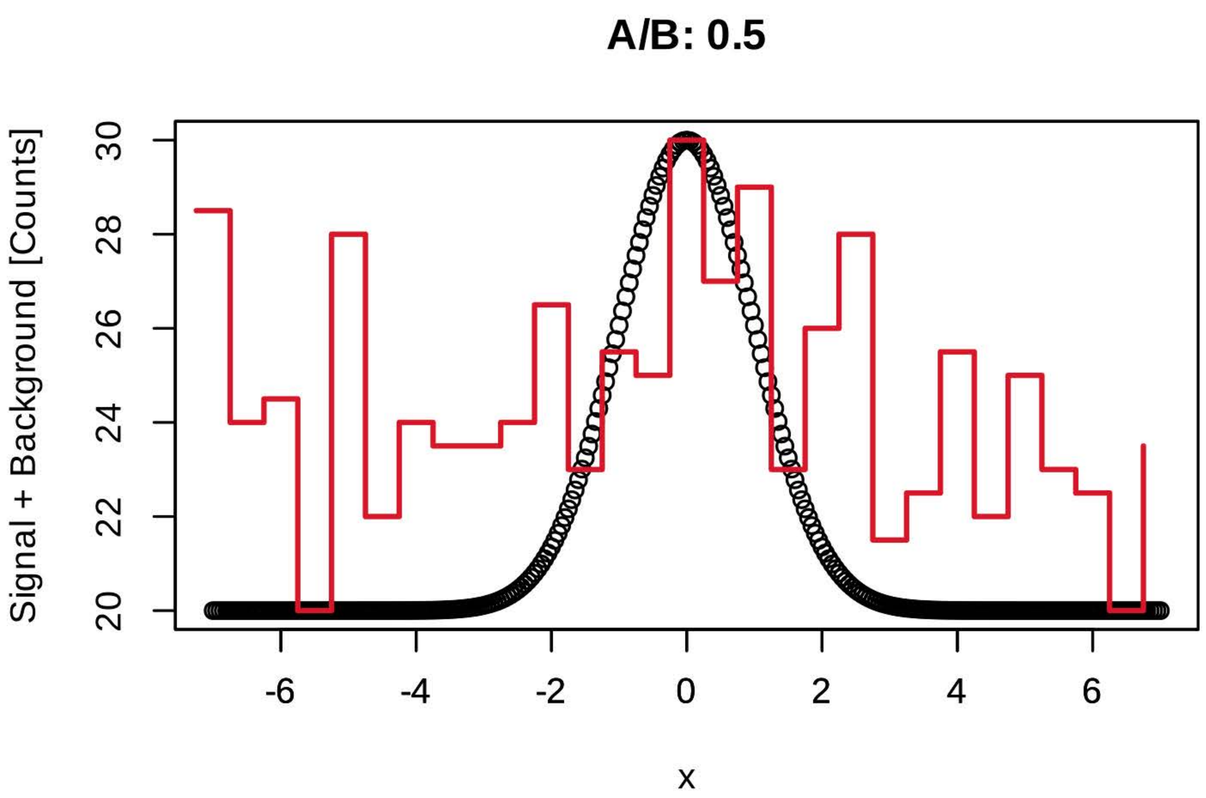


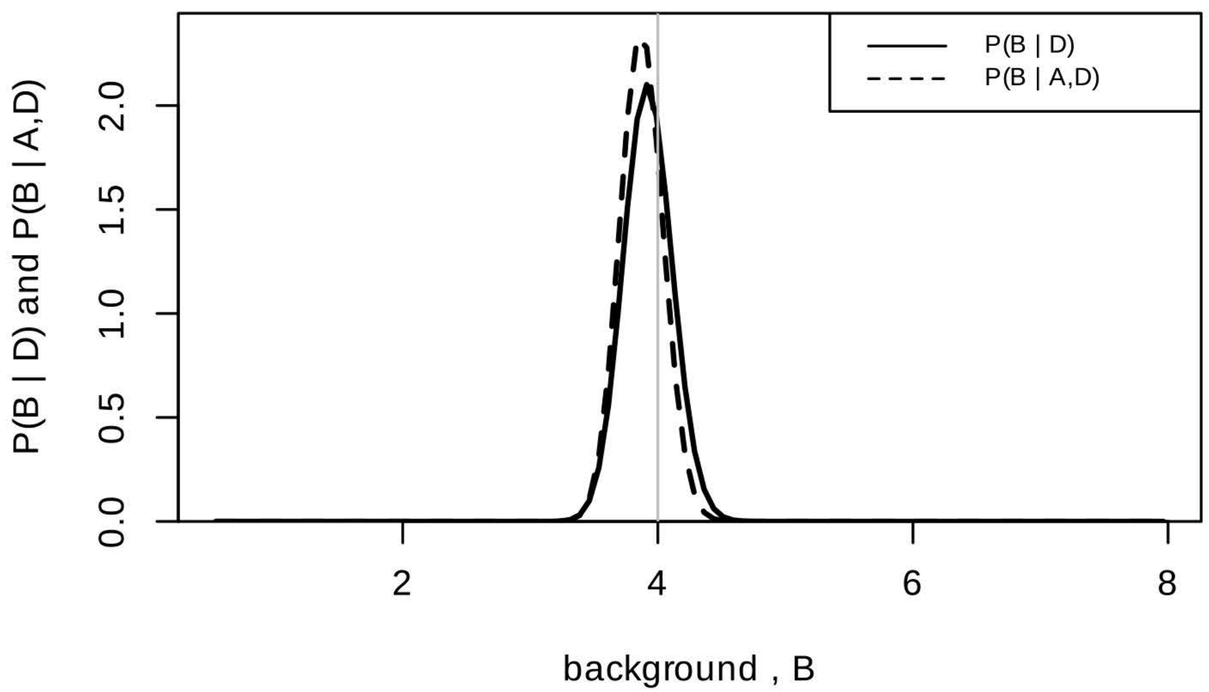

A/B: 0.25
Signal + Background [Counts]
40
42
44
46
48
50
-6
-4
-2
0
2
4
6
x

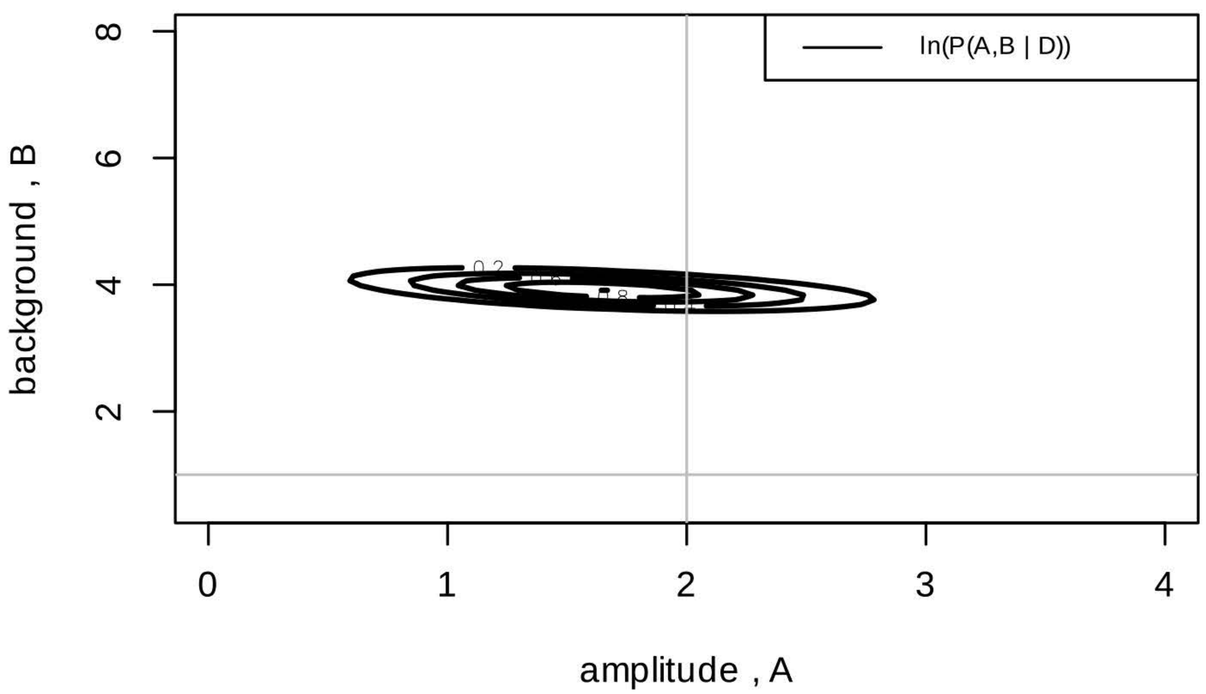

P(B | D) and P(B | A,D)
0.0
0.5
1.0
1.5
P(B | D)
P(B | A,D)
0
5
10
15
background , B

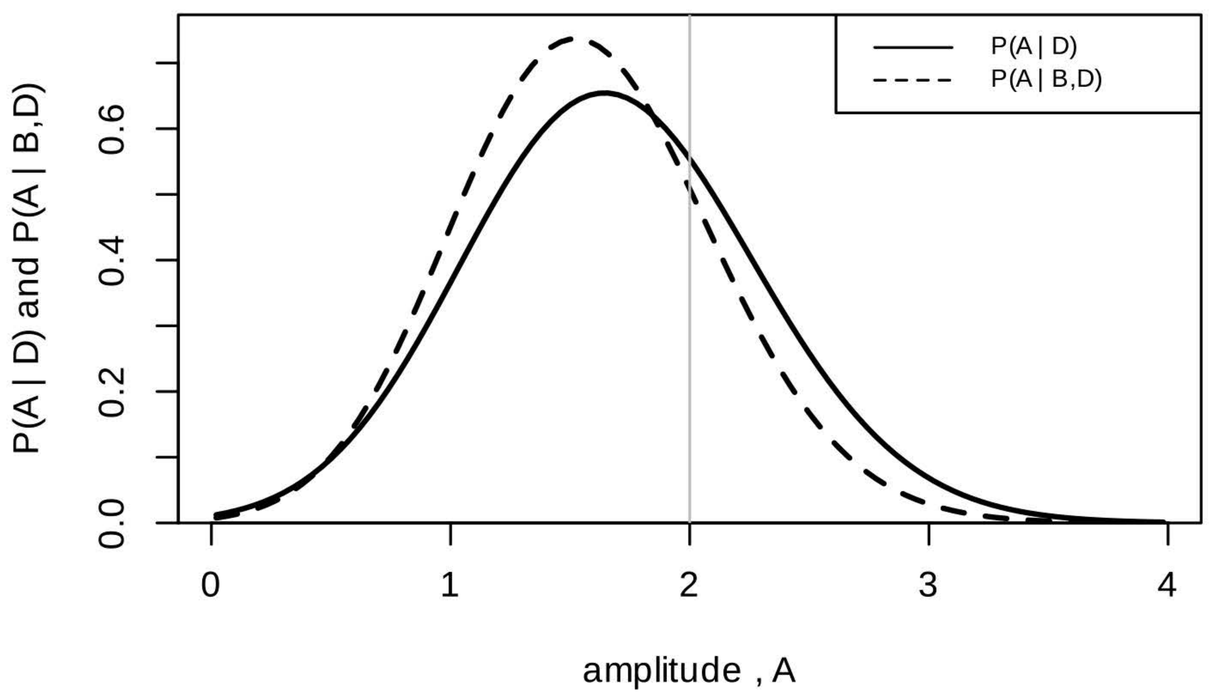

background , B
0
5
10
15
ln(P(A,B | D))
0
1
2
3
4
amplitude , A

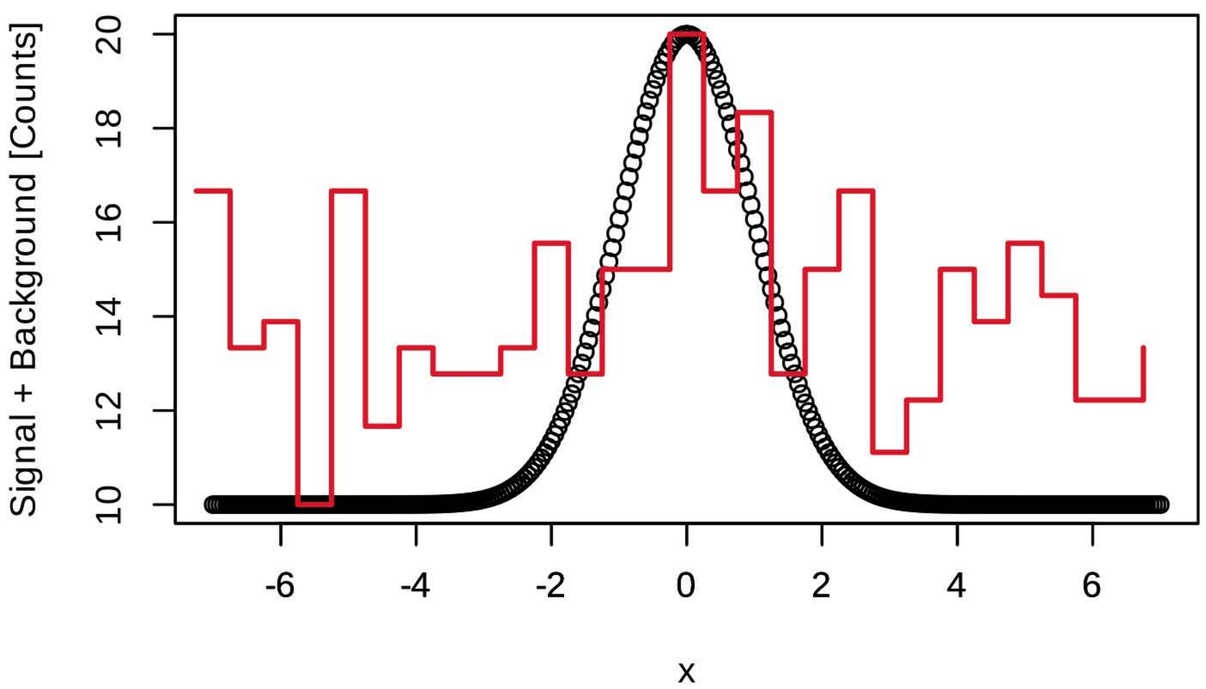

P(A | D) and P(A | B,D)
0.0
0.1
0.2
0.3
0.4
0.5
P(A | D)
P(A | B,D)
0
1
2
3
4
amplitude , A

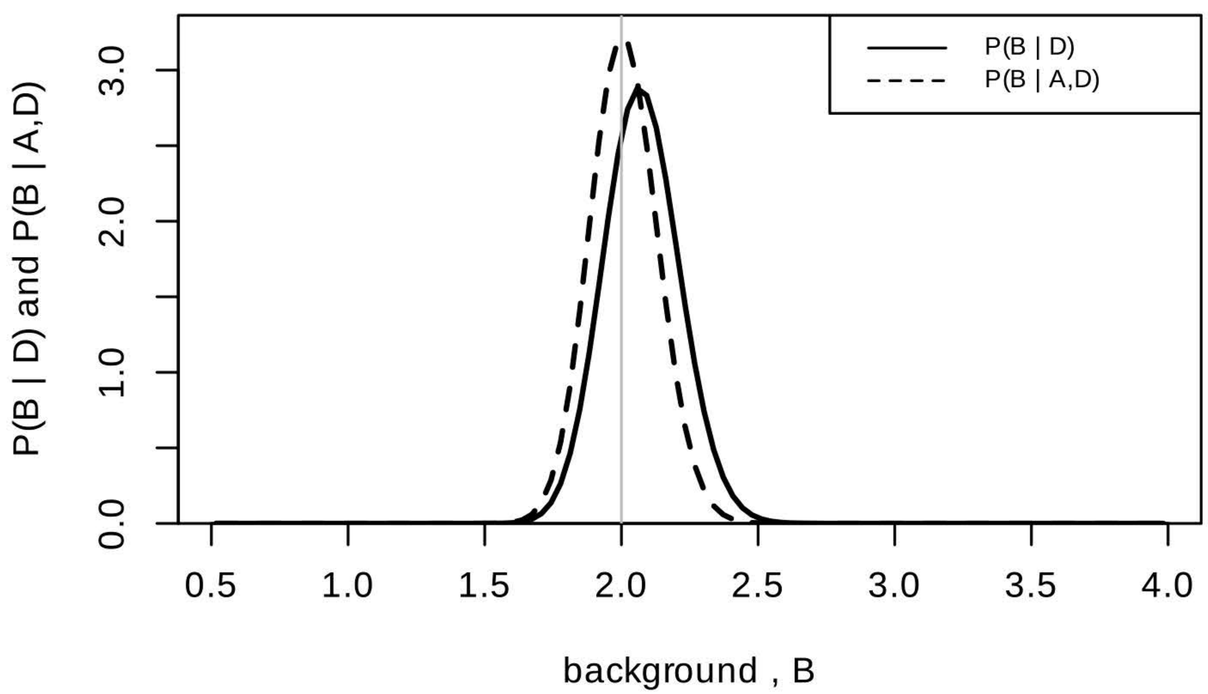

A/B: 0.5
Signal + Background [Counts]
20
22
24
26
28
30
-6
-4
-2
0
2
4
6
x

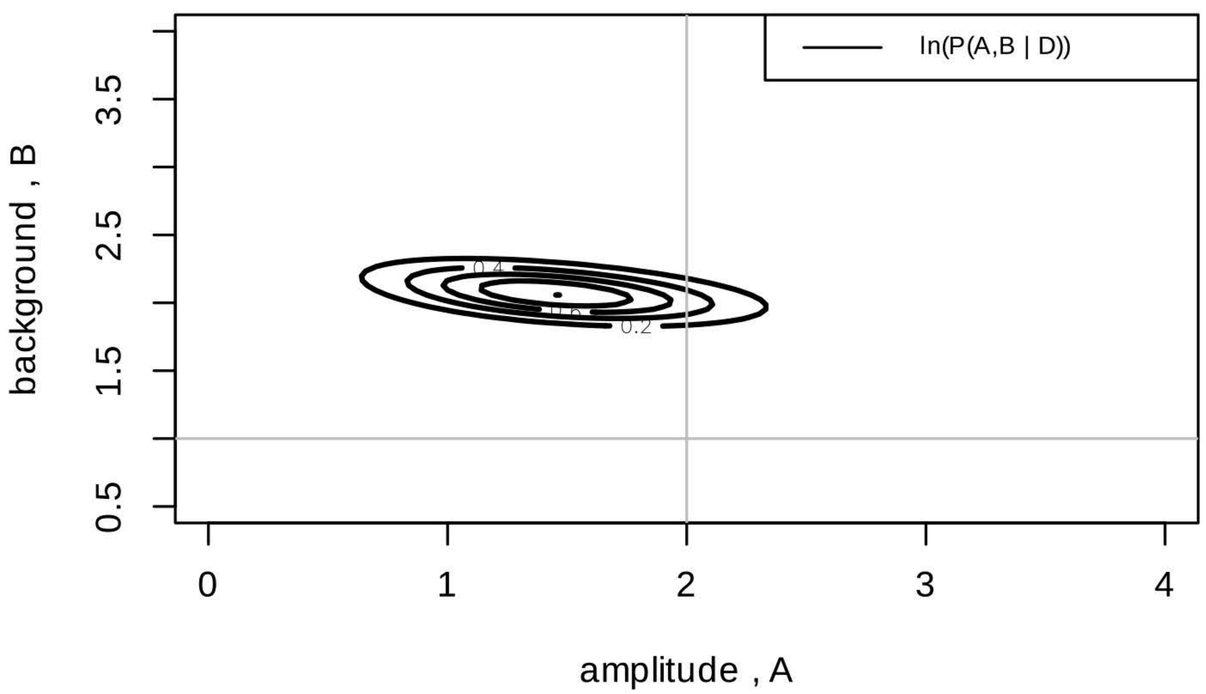

P(B | D) and P(B | A,D)
0.0
0.5
1.0
1.5
2.0
2
4
6
8
background , B
P(B | D)
P(B | A,D)

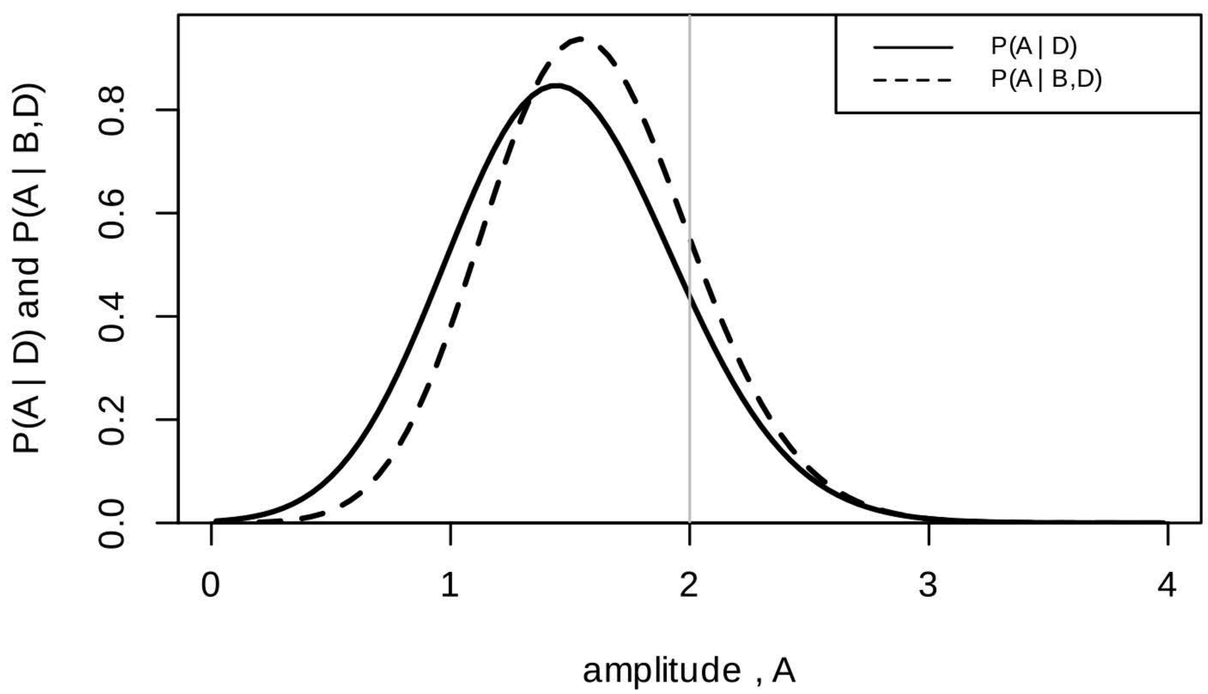

background , B
2
4
6
8
0
1
2
3
4
amplitude , A
ln(P(A,B | D))

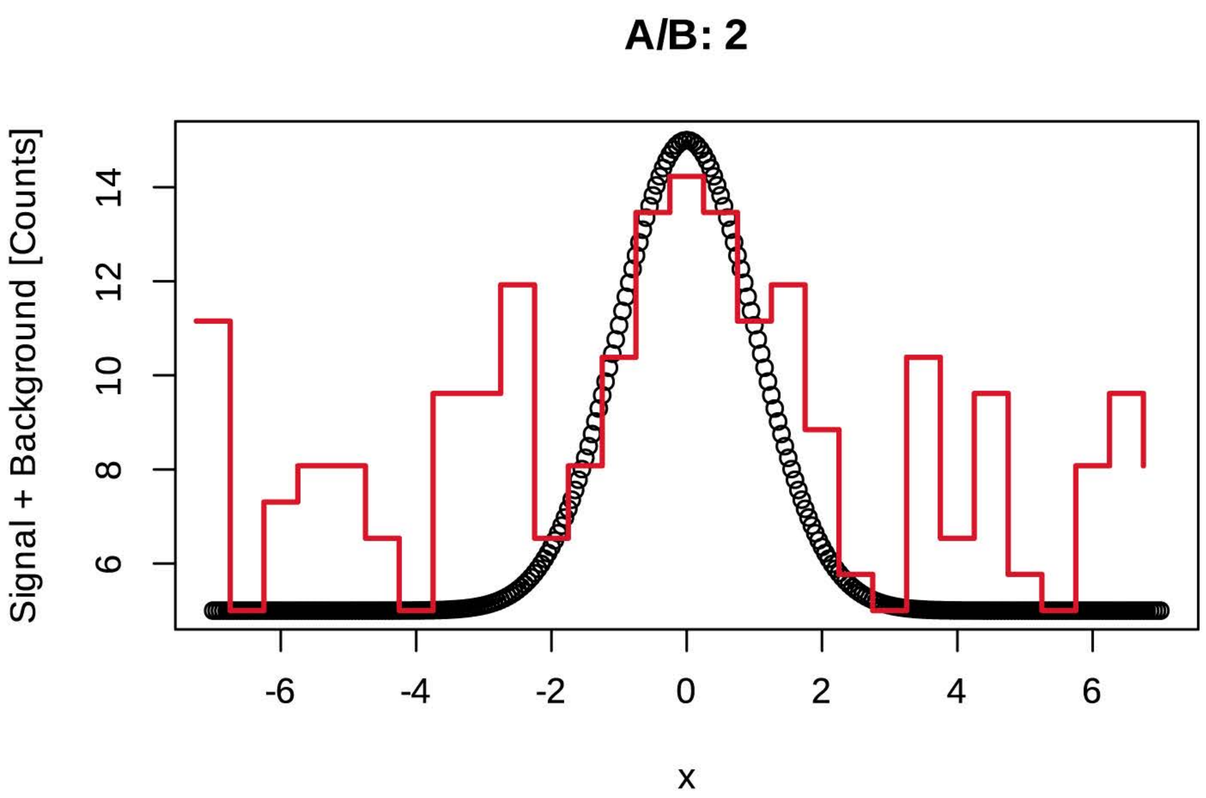

P(A | D) and P(A | B,D)
0.0
0.2
0.4
0.6
0
1
2
3
4
amplitude , A
P(A | D)
P(A | B,D)

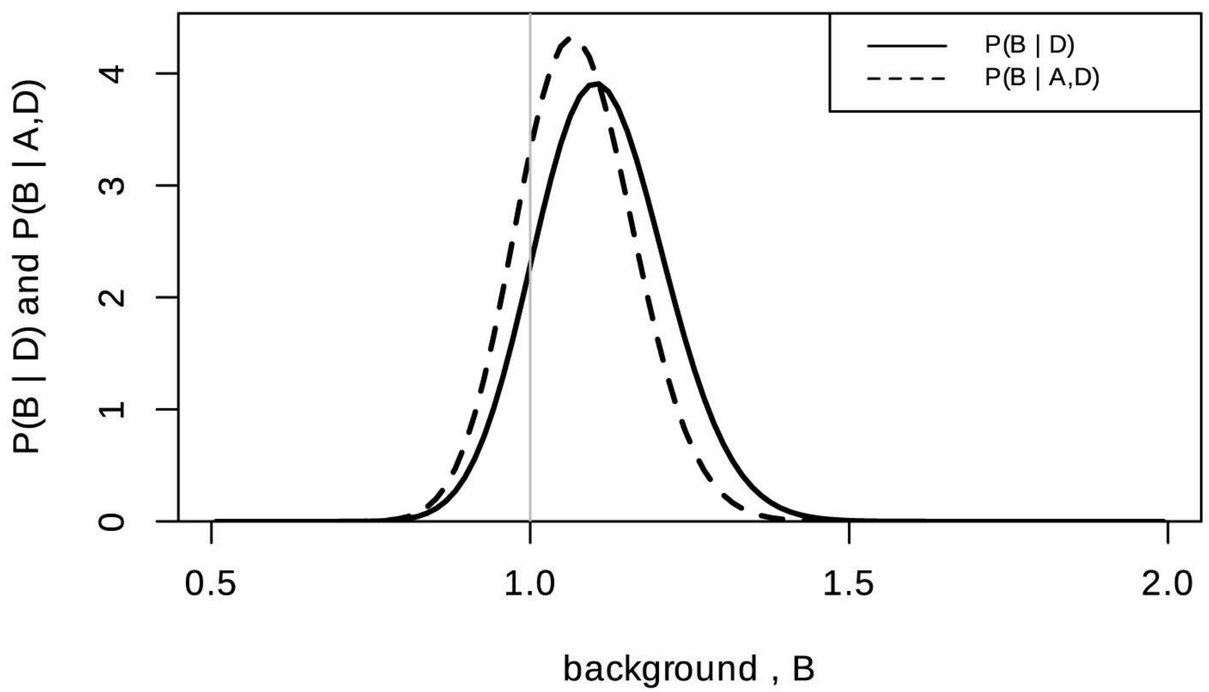

A/B: 1
Signal + Background [Counts]
10
12
14
16
18
20
-6
-4
-2
0
2
4
6
x

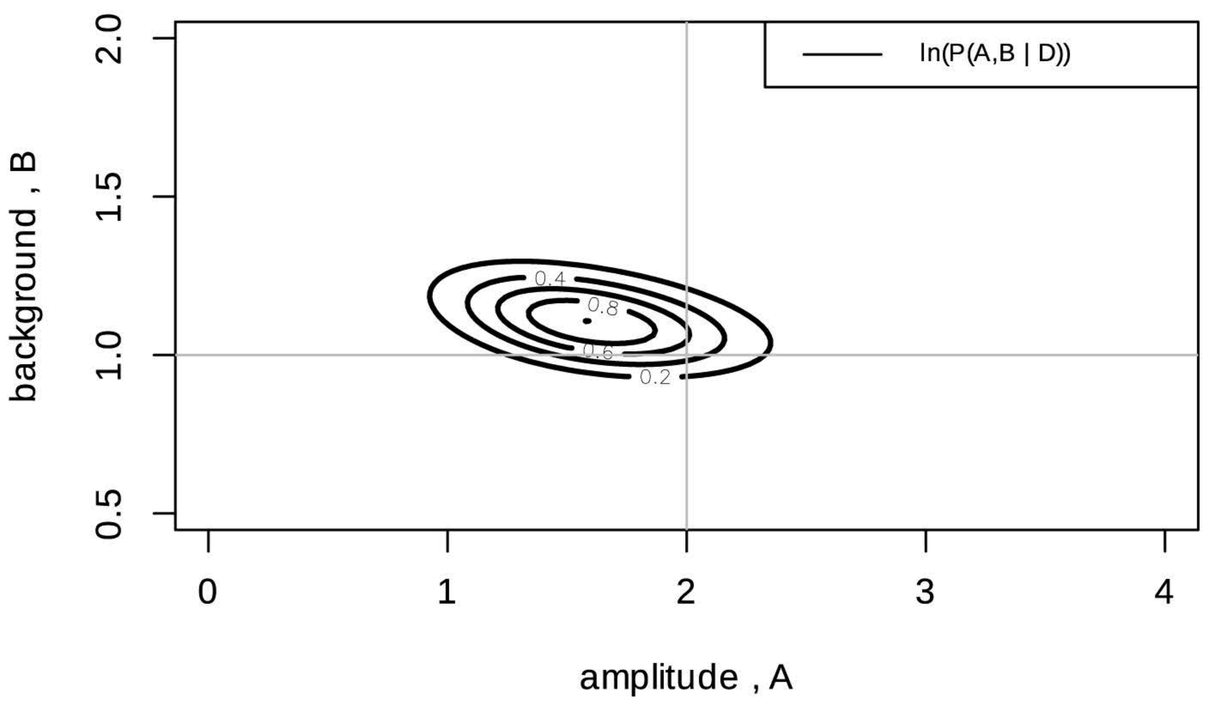

P(B | D) and P(B | A,D)
0.0
1.0
2.0
3.0
P(B | D)
P(B | A,D)
0.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
background , B

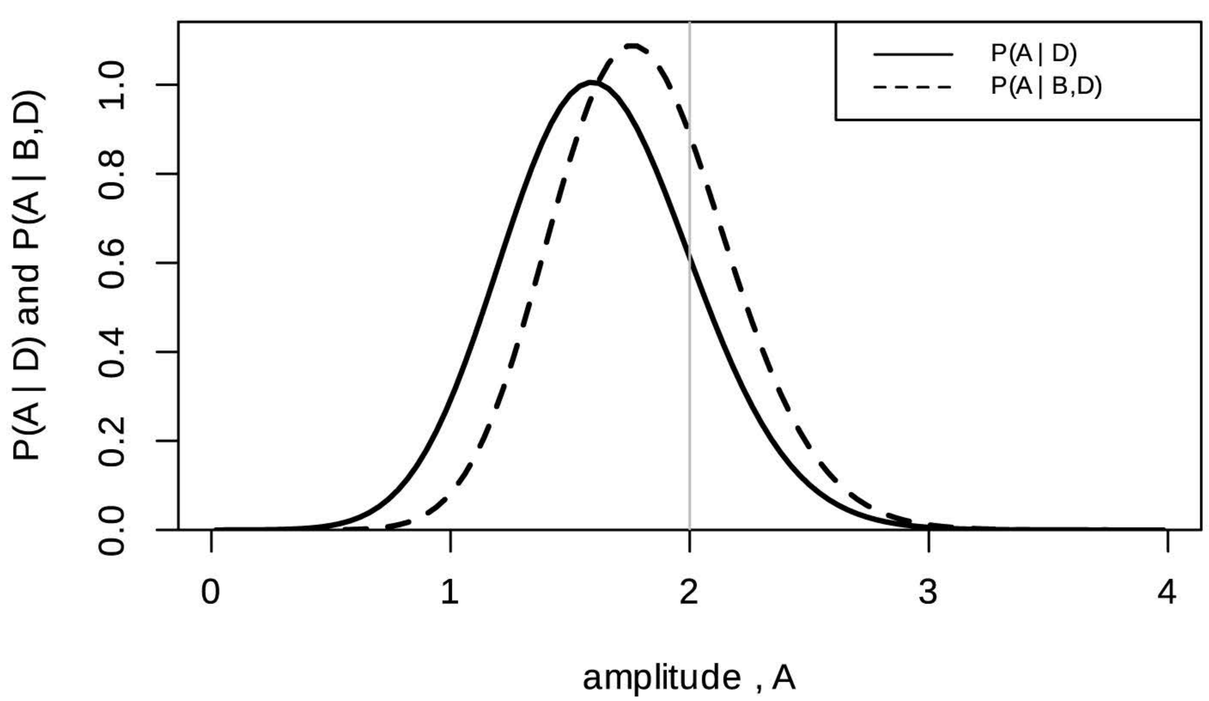

background , B
0.5
1.5
2.5
3.5
ln(P(A,B | D))
0.4
0.6
0.2
0
1
2
3
4
amplitude , A

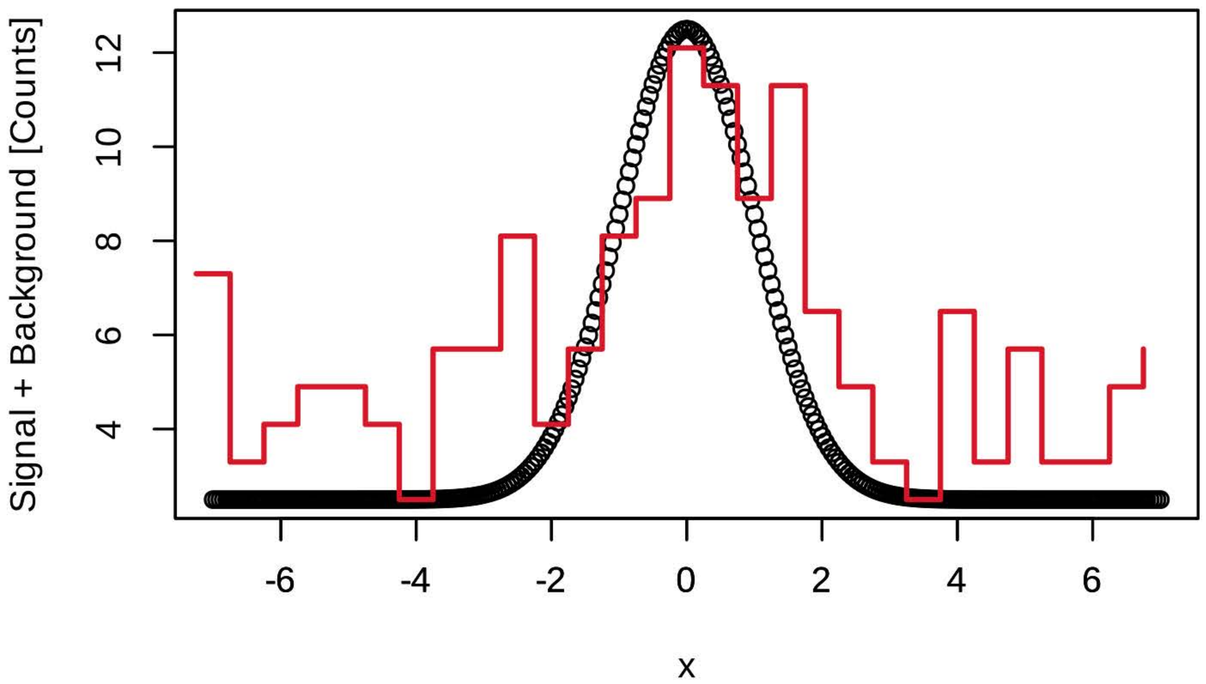

P(A | D) and P(A | B,D)
0.0
0.2
0.4
0.6
0.8
P(A | D)
P(A | B,D)
0
1
2
3
4
amplitude , A

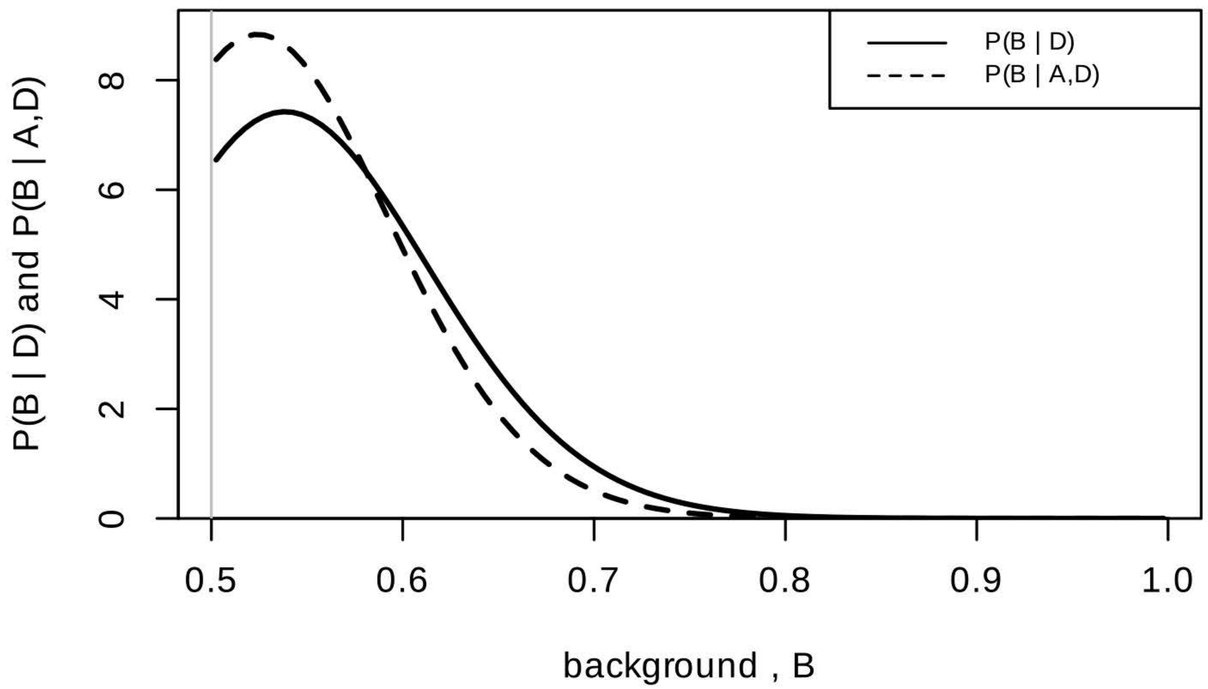

A/B: 2
Signal + Background [Counts]
6
8
10
12
14
-6
-4
-2
0
2
4
6
x

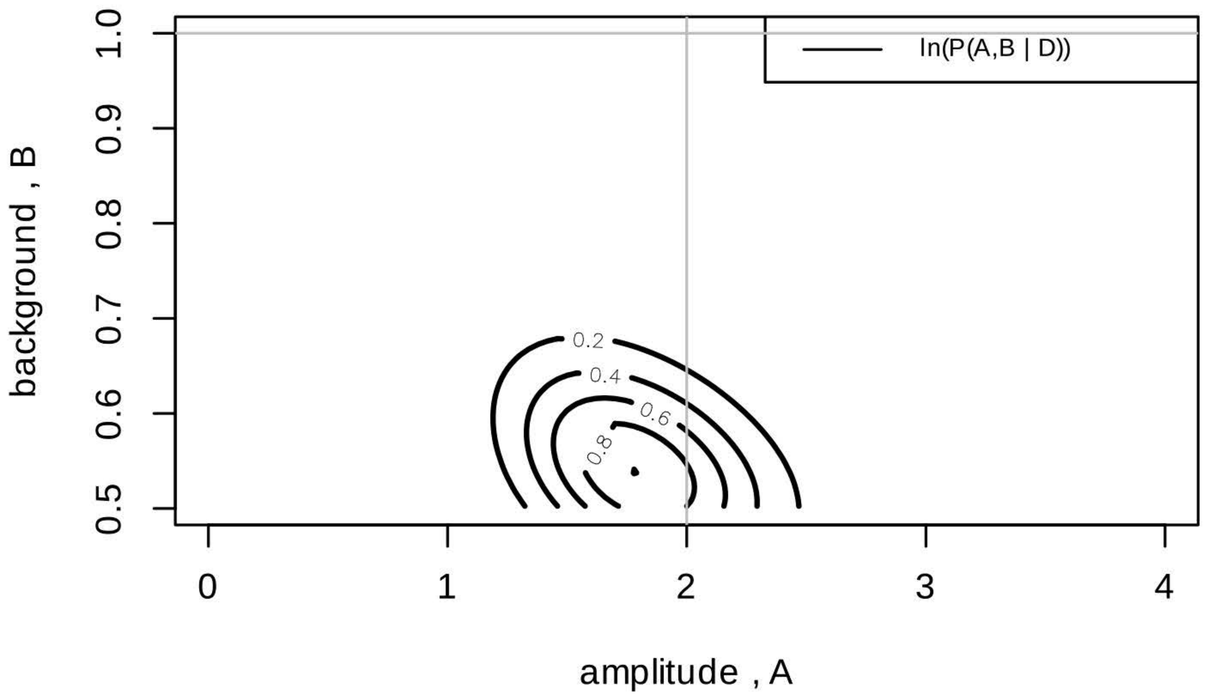

P(B | D)
P(B | A,D)
P(B | D) and P(B | A,D)
0
1
2
3
4
0.5
1.0
1.5
2.0
background , B

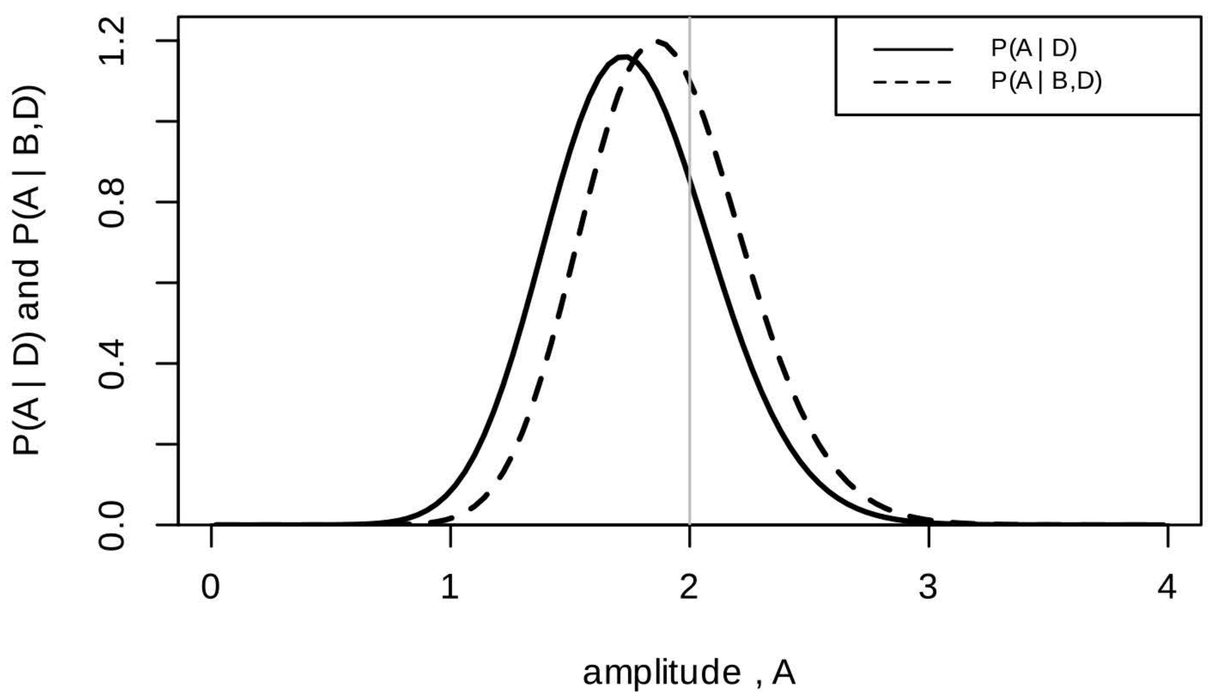

ln(P(A,B | D))
0.4
0.8
0.6
0.2
background , B
0.5
1.0
1.5
2.0
0
1
2
3
4
amplitude , A


P(A | D)
P(A | B,D)
P(A | D) and P(A | B,D)
0.0
0.2
0.4
0.6
0.8
1.0
0
1
2
3
4
amplitude , A


A/B: 4
Signal + Background [Counts]
4
6
8
10
12
-6
-4
-2
0
2
4
6
x


P(B | D)
P(B | A,D)
P(B | D) and P(B | A,D)
0
2
4
6
8
0.5
0.6
0.7
0.8
0.9
1.0
background , B


ln(P(A,B | D))
background , B
0.5
0.6
0.7
0.8
0.9
1.0
0.2
0.4
0.6
0.8
0
1
2
3
4
amplitude , A


P(A | D)
P(A | B,D)
P(A | D) and P(A | B,D)
0.0
0.4
0.8
1.2
0
1
2
3
4
amplitude , A