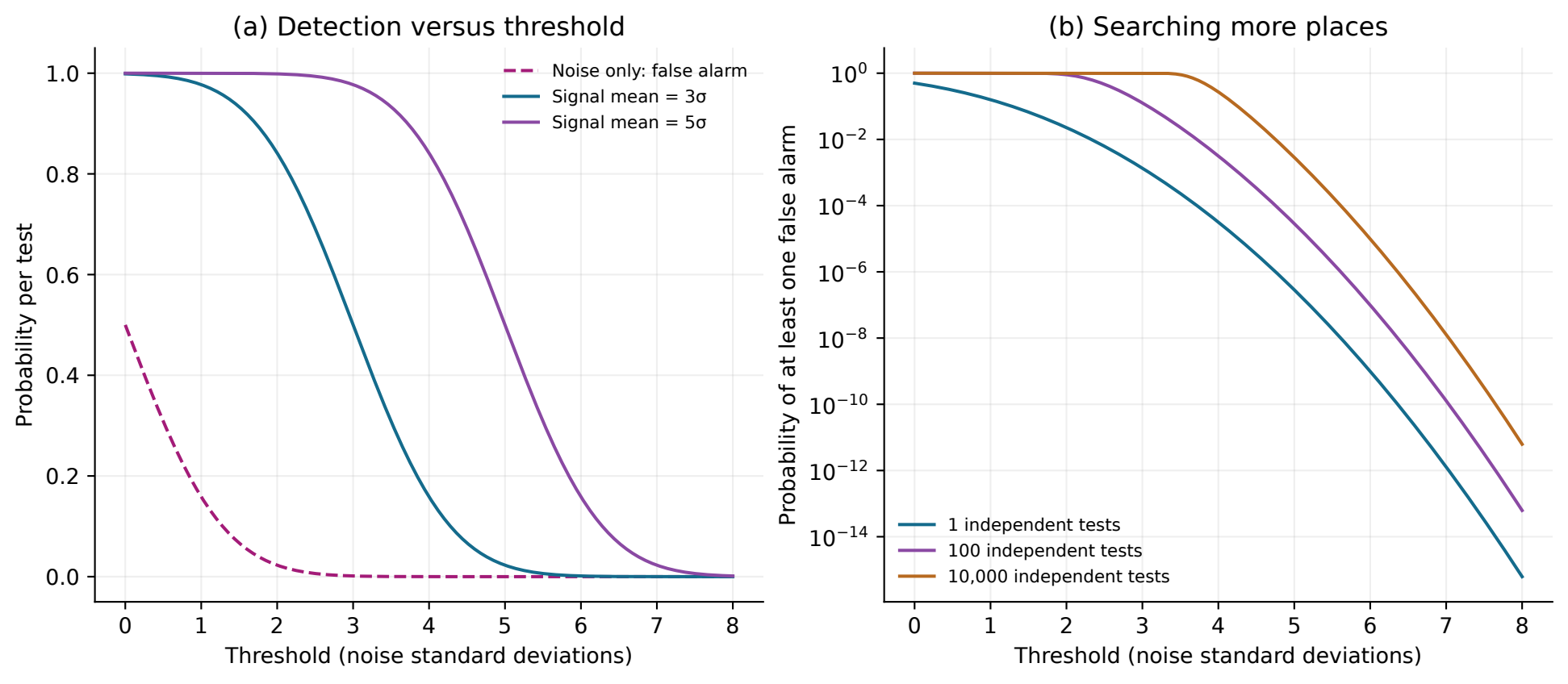

(a) Detection versus threshold
Noise only: false alarm
Signal mean = 3σ
Signal mean = 5σ
Probability per test
1.0
0.8
0.6
0.4
0.2
0.0
0
1
2
3
4
5
6
7
8
Threshold (noise standard deviations)
(b) Searching more places
Probability of at least one false alarm
10^{0}
10^{-2}
10^{-4}
10^{-6}
10^{-8}
10^{-10}
10^{-12}
10^{-14}
1 independent tests
100 independent tests
10,000 independent tests
0
1
2
3
4
5
6
7
8
Threshold (noise standard deviations)