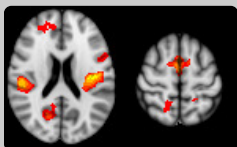
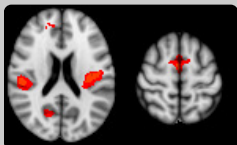


Reference set

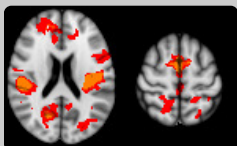


$J = 50000$
elapsed time: 48630.8 s

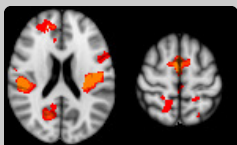
Few permutations



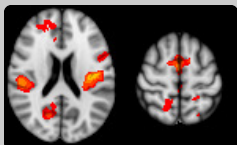
$J = 100$
elapsed time: 100.1 s



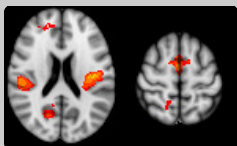
$J = 200$
elapsed time: 196.4 s



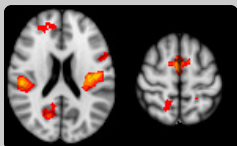
$J = 300$
elapsed time: 294.6 s



$J = 500$
elapsed time: 486.4 s

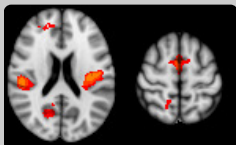


$J = 1000$
elapsed time: 939.0 s

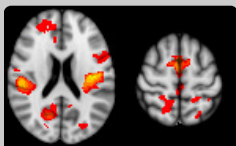


$J = 5000$
elapsed time: 4881.8 s

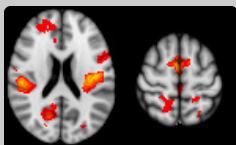
Tail approximation



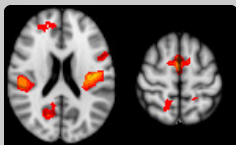
$J = 100$
elapsed time: 102.5 s



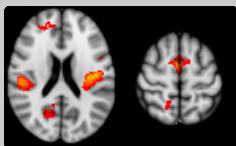
$J = 200$
elapsed time: 198.3 s



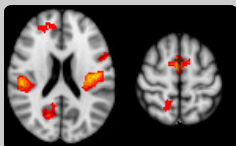
$J = 300$
elapsed time: 296.8 s



$J = 500$
elapsed time: 498.6 s

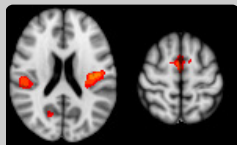


$J = 1000$
elapsed time: 1013.0 s

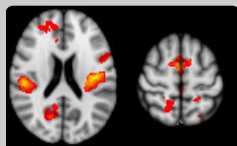


$J = 5000$
elapsed time: 4953.0 s

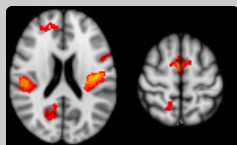
Gamma approximation



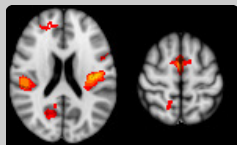
$J = 100$
elapsed time: 101.2 s



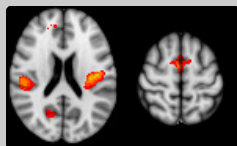
$J = 200$
elapsed time: 196.3 s



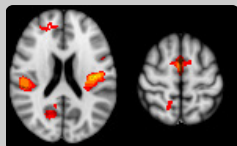
$J = 300$
elapsed time: 288.6 s



$J = 500$
elapsed time: 495.9 s



$J = 1000$
elapsed time: 971.5 s



$J = 5000$
elapsed time: 4922.6 s

1.3  2.5

$-\log_{10}(p)$