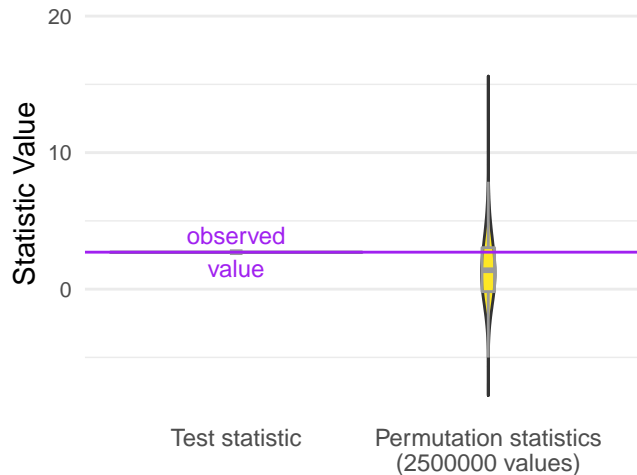**Without Filter**
Test statistic is deterministic on fixed data

With PhiMr Filter
Test statistic varies on fixed data

Statistic Value

observed value

mean test stat

Test statistic

Permutation statistics
(2500000 values)

Test statistics
(256000 values)

Permutation statistics
(2500000 values)