



Both tests have type I error rate ≈ 0.05 for the independent observations and the p-values look uniformly distributed.

For the dependent observations, the t -test has an inflated type I error rate with lots of p-values near zero (because the SE is too big when we ignore dependency). The permutation test has lots of p-values of 1 where the median slope was 0 which is at the center of the permutation distribution. Does this make sense? There true slope is 0.