

abstract: Count time series have been attracted attention and widely studied. We deal with count time series whose conditional expectation has dependence structure. This model is motivated by generalized linear models. In this talk, we discuss two hypothesis testing problems for count time series.

The first is a test for a structural break. We propose Wald type, score type, residual type of CUSUM test statistics, and show the asymptotic null distributions. This result enables us to construct a distribution-free and asymptotic size alpha test. Moreover, a test based on a modified Wald statistic is consistent.

The second is a test for the conditional variance. We elucidate the asymptotic null distribution of a proposed test statistic and show consistency of the proposed test. Moreover, the local alternative hypothesis is also discussed. This test can be applied to various testing problems such as a goodness of fit test, a specification test of intensity function, and a test for equidispersion.