

CCSU
DEPARTMENT OF MATHEMATICAL SCIENCES

COLLOQUIUM

Friday, October 30

2:00 – 3:00 PM

Maria Sanford Hall, Room 101

PROFILE LIKELIHOOD BASED CONFIDENCE INTERVAL FOR THE DISPERSION PARAMETER IN COUNT DATA

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Abstract

The dispersion parameter is an important and versatile measure in the analysis of one-way layout of count data in biological studies. Many authors have examined the bias and efficiency of different estimators of the dispersion parameter for finite data sets, but little attention has been paid to the accuracy of its confidence interval. In this talk we compare the small-sample coverage probabilities of four different approaches for computing the confidence intervals of the dispersion parameter in counts based on a parametric model as well as the models that are specified by only the first two moments of the counts. We strongly recommended that one of these be used in practice. Finally, these methods are applied to a set of biological data. I will start my talk with the basic concepts of the confidence interval methods, along with all basic definitions related with this topic.

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