Conformance Proportions in Normal Linear Models

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Abstract

In this talk, we will discuss approaches for constructing confidence limits for unilateral and bilateral conformance proportions in a normal variance components model. For unilateral one, we propose a Student's t based method and a generalized pivotal quantity (GPQ) based method. For bilateral one, we propose also a GPQ-based method and a modified large sample (MLS) based method. The performance of the proposed methods is evaluated through detailed simulation studies. Some real datasets are given to illustrate the applications of the proposed methods.

Key words: confidence interval; generalized pivotal quantity; modified large sample; tolerance interval.