

The University of Chicago

Department of Statistics

Seminar

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“Inference with a Restricted Parameter Space”

Monday, February 11, 2002 at 4:00 pm
133 Eckhart Hall, 5734 S. University Avenue

ABSTRACT

Analyses of data from recent experiments in high-energy physics have encountered serious foundational problems. In models for these data, there are known bounds on parameter values, for example, a non-negative normal mean. There is enough measurement error, however, that unbiased estimators can violate the bounds; and standard confidence procedures have obvious flaws, both conceptual and practical. Attempts to circumvent problems with the confidence procedures will be reviewed with special attention to Bayesian/frequentist compromises and a non-standard conditional frequentist approach. Related problem occur in random and mixed effects models, where unbiased estimators of variance components can be negative, and the use of a Bayesian/frequentist approach in this context will be described.