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Coffee following presentation in DU 359

TITLE: Plausibility functions and exact frequentist inference

ABSTRACT: In the frequentist program, inferential methods with exact control on error rates are a primary focus. The standard approach, however, is to rely on asymptotic approximations, which may not be suitable. In this talk, I will present a general framework for the construction of exact frequentist procedures based on plausibility functions. I will show that the plausibility function-based tests and confidence regions have the desired frequentist properties in finite samples—no large-sample justification needed. An extension of the proposed method is also given for problems involving nuisance parameters. Examples demonstrate that the plausibility function-based method is both exact and efficient in a wide variety of problems.