FIXED-WIDTH CONFIDENCE INTERVALS FOR CONTRASTS IN THE MEANS

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Abstract. The sequential procedure developed by Bhargava and Srivastava (1973, *J. Roy. Statist. Soc. Ser. B*, **35**, 147–152) to construct fixed-width confidence intervals for contrasts in the means is further analyzed. Second-order approximations for the first two moments of the stopping time and the coverage probability associated with the sequential procedure, are obtained. A lower bound for the number of "additional" observations after stopping is derived, which ensures the "exact" probability of coverage. Moreover, two-stage, three-stage and "modified" sequential procedures are proposed for the same estimation problem. Relative advantages and disadvantages of these sampling schemes are discussed and their properties are studied.

Key words and phrases: Confidence intervals, contrasts in the means, fixed-width, multi-stage estimation.