LR TEST FOR RANDOM-EFFECTS COVARIANCE STRUCTURE IN A PARALLEL PROFILE MODEL

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Abstract. We consider a parallel profile model which is useful in analyzing parallel growth curves of several groups. The likelihood ratio criterion for a hypothesis concerning the adequacy of a random-effects covariance structure is obtained under the parallel profile model. The likelihood ratio criterion for the hypothesis in the general one-way MANOVA model is also obtained. Asymptotic null distributions of the criteria are derived when the sample size is large. We give a numerical example of these asymptotic results.

Key words and phrases: Parallel profile model, random-effects covariance structure, asymptotic null distribution, likelihood ratio criterion.