Analysis of Longitudinal data with Increasing Variance Function

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Abstract

In our previous paper, we considered a model where the variances and covariances are stable and proposed the analysis of variance procedures. In many practical cases, however, the variances are increasing as the time points are later. In this paper, two models which allow increasing variances are proposed using the notion of autoregression. A method of analyzing longitudinal data taken at equal spaced fixed points is also proposed. Further, a numerical example is given in order to display how our method is applied.

Key words: REML, random model, repeated measurement, testing hypothesis.

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