Repeated measures tools for multivariate linear models

Peter Dalgaard

A set of methods which extend preexisting methods for objects of class "mlm" was introduced in R versions 2.1.0-2.2.0. These methods deal with linear models with multivariate response.

The new methods allow model reduction tests based on multivariate normal theory. However, multivariate models are often employed as a first step in the analysis of repeated measurements data. In such data, the individual coordinates of the response measure fundamentally the same thing, but one could be unsure of the correlation structure.

In a repeated measurements context, the concepts of sphericity and the Greenhouse-Geisser and Huynh-Feldt adjustments to standard F tests become important. A further aspect is that you generally need to work with transformed response vectors, e.g. contrasts or averages within subjects, and there is a need for a structured specification of such transformations.