

Analysis of multivariate growth curves with smoothing splines

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Abstract

In this paper we investigate fitting and testing of multivariate growth curves when the analysis is based on smooth spline functions. It is shown that estimation is greatly simplified under certain important class of covariance structures. It is also shown how the approximated splines can be tested using the F-test. A real data example is used to illustrate the proposed methodology.

Keywords

Complete and balanced data; Matrix normal distribution; Penalized likelihood.