Explicit Estimators of Parameters in the Growth Curve Model with a Linearly Structured Covariance Matrix

Estimation of parameters in the classical Growth Curve model when the covariance matrix has some specific linear structure is considered. In our examples maximum likelihood estimators can not be obtained explicitly and must rely on optimization algorithms. Therefore explicit estimators are obtained as alternatives to the maximum likelihood estimators. From a discussion about residuals, a simple non-iterative estimation procedure is suggested which gives explicit and consistent estimators of both the mean and the linear structured covariance matrix.