

Optimal Design for Growth Curve Models

Heinz Holling ¹, Fritjof Freise ², Rainer Schwabe ³

In educational and psychological testing repeated measurement of cognitive abilities leads to considerable gains in ability scores. To efficiently analyze these gains we will develop an optimal test design for growth curve models based on item response models. Item difficulties are assumed to be known in order to efficiently estimate individual growth curves for the abilities due to retesting or learning.

¹Institute of Psychology, University of Münster, Fliednerstr. 21, D-48149 Münster, Germany, E-mail: holling@uni-muenster.de

²Department of Statistics, Technical University of Dortmund, D-44221 Dortmund, Germany, E-mail: fritjof.freise@tu-dortmund.de

³Institute of Mathematical Stochastics, Otto-von-Guericke University Magdeburg, Universitätsplatz 2, D-39106 Magdeburg, Germany, E-mail: rainer.schwabe@ovgu.de