



## A fast Mixed Model B-splines algorithm

Martin P. Boer

Biometris WUR, Wageningen, The Netherlands - martin.boer@wur.nl

A fast algorithm for B-splines in mixed models is presented. B-splines have local support and are computationally attractive, because the corresponding matrices are sparse. A key element of the new algorithm is that the local character of B-splines is preserved, while in other existing methods this local character is lost. The computation time for the fast algorithm is linear in the number of B-splines, while computation time scales cubically for existing transformations.

**Keywords:** P-splines; Sparse Matrices; REML