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Abstracts

'robande': An R package for Robust ANOVA

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The R package 'robande' will be described and demonstrated. The package is based on the methodology in Sarmad (2006)[1] which generalises the ideas introduced by Seheult and Tukey (2001)[2] for performing a robust analysis of variance for a factorial experimental design, those ideas being based on earlier work by Tukey and collaborators on median polish for two way tables. The method may be applied to any type of factorial design including full and fractional factorial designs with and without replication. A version of sequential ANOVA is proposed for non-orthogonal designs. The package includes functions to decompose the data using a specified sweep function, to present the resulting decomposition, to detect and highlight possible outliers and to compute the robust ANOVA table.

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[1] M. Sarmad. Robust data analysis for factorial experimental designs: Improved methods and software. PhD thesis, University of Durham, 2006.

[2] A. H. Seheult and J. W. Tukey. Toward robust analysis of variances. In *Data Analysis from Statistical Foundations: A Festschrift in Honour of the 75th Birthday of D.A.S.Fraser*. Ottawa, 2001, Nova Publishers.