‘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), which generalises the ideas
introduced by Schenull and Tukey (2001) for performing a robust analysis of
variance for a factorial experimental design, these 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 frac-
tional factorial designs with and without replication. A version of sequential
ANOVA is proposed for non-orthogonal designs. The package includes func-
tions to decompose the data using a specified sweep function, to present the
resulting decomposition, to detect and highlight possible outliers and to com-
pute the robust ANOVA table.

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1. M. Sarmad. Robust data analysis for factorial experimental designs: Improved methods
from Statistical Foundations: A Festschrift in Honour of the 75th Birthday of D. A. S. Fraser.