ASYMPTOTICALLY EFFICIENT RANK MANOVA TESTS FOR RESTRICTED ALTERNATIVES IN RANDOMIZED BLOCK DESIGNS

MING-TAN M. TSAI[1] AND PRANAB KUMAR SEN[2]*

[1]*Institute of Statistical Sciences, Academia Sinica, Taipei 11529, Taiwan, Republic of China*
[2]*Departments of Biostatistics and Statistics, University of North Carolina,
Chapel Hill, NC 27599-7400, U.S.A.*

Abstract. In a randomized block design MANOVA model, for intra-block as well as aligned rank tests for homogeneity of treatment effects against some restricted alternatives, asymptotic optimality is studied by reference to the corresponding restricted likelihood ratio tests. Tests based on aligned ranks are better than intra-block rank tests when the error distributions are homogeneous across the blocks.