

A STUDY OF REDUNDANCY OF SOME VARIABLES IN COVARIATE DISCRIMINANT ANALYSIS

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Abstract. The redundancy of some variables in discriminant analysis and its tests were developed by Rao (1946, *Sankhyā*, 7, 407–414; 1948, *Biometrika*, 35, 58–79; 1970, *Essays in Probability and Statistics*, (eds. R. C. Bose *et al.*), 587–602, Univ. of North Carolina Press, Chapel Hill), and were further studied by McKay (1977, *J. Roy. Statist. Soc. Ser. B*, 39, 371–380) and Fujikoshi (1982, *Ann. Inst. Statist. Math.*, 34, 523–530). These are now extended to the most general situation which includes redundancy in covariate as well as main variables in discrimination between two or more groups. The likelihood ratio test is derived in a closed form. An alternative test is also suggested.

Key words and phrases: Covariate and discriminate variables, likelihood ratio test, redundancy of variables, test of redundancy, Wilks lambda distribution.