

1067-Z1-1864

Samad Hedayat and **Wei Zheng*** (wzheng8@uic.edu), 938 w. 32nd pl. #3 R, chicago, IL 60608. *Optimal and Efficient Crossover Designs for Test-Control Study When Subject Effects are Random.*

We study crossover designs based on the criteria of A- and MV- optimality under the model with random subject effects, for the purpose of comparing several test treatments with a standard control treatment. Optimal and efficient designs are proposed, and their efficiencies are also evaluated. A family of totally balanced test-control incomplete crossover designs based on a function of the ratio of the subject effect variance to the error variance are shown to be highly efficient and robust. The results have interesting connections with those in Hedayat and Yang (2005) and Hedayat, Stufken, and Yang (2006). (Received September 22, 2010)