

Robust designs for probability estimation in binary response experiments

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Abstract

The purpose of this work is to investigate robust design problems for estimation of the response probability curve under binary response experiments with model uncertainty consideration. A minimax type of model robust design criterion, called *WB*-optimum in short, is proposed, based on minimization of the maximum of the weighted squared probability bias function under two rival models. The corresponding design issues are discussed under the above design criterion with rival models with several commonly seen symmetric links.

Keywords: minimax optimality, *WB*-optimum, equal oscillation, logit model, probit model