

Missing responses occur in many industrial or medical experiments, for example in clinical trials where slow acting treatments are assessed. Finding efficient designs for such experiments is problematic since it is not known at the design stage which observations will be missing. The design literature mainly focuses on assessing robustness of designs for missing data scenarios, rather than finding designs which are optimal in this situation. Imhof, Song and Wong (2002) propose a framework for design search, based on the expected information matrix. We develop a new approach which includes Imhof, Song and Wong (2002)'s method as special case and justifies its use retrospectively. Our method is illustrated through a simulation study based on real data from an Alzheimer's disease trial.