

行政院國家科學委員會專題研究計畫成果報告

計畫名稱：半折疊解析度為 III 之二水準部份因子設計
Semifolding Fractional Factorial Designs of
Resolution III
計畫編號：NSC 90-2118-M-004-007
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ABSTRACT. In the area of fractional factorial designs, the concept and techniques of semifolding have been developed for resolution IV designs, but they are not yet done for resolution III designs. This paper focuses on investigation the effects of semifolding on resolution III designs. We apply the concept of semifolding in John (2000) and Li and Mee (2000) to resolution III designs. The procedure we suggest in this paper is to “block” or separate the initial design into two sections of equal size, and then fold over one of the sections. The “optimal” blocking factors for 24-run and 48-run designs are listed, and the performance of the combined semifold designs in comparison with that of the combined foldover designs are shown. Some general results are also given.

AMS (1991) subject classification. 62K05, 62K10

Key words and phrase. Blocking; foldover, follow-up experiment; fractional factorial design.

Short running title. Semifolding 2_{III}^{k-p} Design