國立高雄大學統計學研究所
108 學年度書報討論題目暨摘要登記表

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題目：Testing for Multiple Change-points in Mean of Polynomial Regression Model

參考文獻：

1. Chih-Hao Chang, Kam-Fai Wong, and Wei-Yee Lim (2019). Structural change detection in polynomial regression for dependent data with heterogeneous variance. Submitted.

摘要：

Detection of structural changes in the distribution of dependent data are well studied in literature and applied in many scientific fields. In Chang, Wong and Lim (2019), they applied an estimation method, ordered iterative least square estimate (OiLSE), to estimating change-points. Also, they applied a model selection procedure to detect multiple change-points. In our research, we applied a hypothesis testing based on the OiLSE estimates to detect the change-points in the mean of a stochastic process. We constructed an asymptotic valid level α test, where the empirical type II error is also illustrated by simulation studies. We also compared the results for simulation studies of change-point detection between methods of the hypothesis testing and the model selection procedure provided by Chang, Wong and Lee (2019).

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