



THE UNIVERSITY OF
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Department of Statistics

MASTER'S THESIS PRESENTATION

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Optimal Thresholding Estimator of Covariance Matrix for
High Dimensional Time Series

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ABSTRACT

High dimensional covariance matrix estimation has long been an issue, especially when the data is dependent. Among all techniques used in such estimation, thresholding is one of the most widely used tool. However, one practical problem in thresholding is that the optimal threshold is hard to obtain. In this paper, we propose a new cross-validation based approach to find the optimal threshold when the data in interest is high dimensional time series. The new approach works well in terms of Frobenius norm of difference between estimator and true covariance matrix.