



THE UNIVERSITY OF  
**CHICAGO**

Department of Statistics

MASTER'S THESIS PRESENTATION

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EbayaesThresh with Heterogeneous Variance

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Jones 304, 5747 S. Ellis Avenue

#### ABSTRACT

This paper is an extension of EbayaesThresh (the empirical bayesian thresholding method) under assumption of data with homogeneous standard deviation noises described in Johnstone and Silverman (2004). We ease this restriction, allowing heterogeneous standard deviation of noises, and provide details in estimating the true effects with posterior estimator, e.g. posterior mean or posterior median. The performance of the model with heterogeneous standard deviation is compared to that of the model assuming homogeneous standard deviation. We also discuss the implication of threshold constraints on estimation of non-null weight and the effect on estimation efficiency in terms of mean squared error and mean absolute error in the article.

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