1116-VP-364 **Dawit G Tadesse*** (tadessdt@ucmail.uc.edu), Dept. of Math Sciences University of Cincinna, 2815 Commons Way, 5411 French Hall, Cincinnati, OH 45221, and **Mark Carpenter**. *A Method for Selecting the Relevant Dimensions for Text Classification in Singular Vector Spaces.*

In this paper, we give a new feature selection algorithm for the text mining problem in sparse high-dimensional spaces. Singular Value Decomposition (SVD) is a popular dimension reduction method in higher-dimensional text classification. The traditional SVD method begins by ranking the Singular Dimensions (SDs) from largest singular value to the smallest. However, when the signal is sparse and the signal-to-noise ratio low, the first few ranked SDs are not necessarily the best for classification. We demonstrate, theoretically and empirically, that our method efficiently selects the SDs most appropriate for classification and significantly reduces the misclassification error. We also apply our method to a real data text mining application. (Received August 28, 2015)