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Carley R Walker* (carley.walker@usm.edu), The University of Southern Mississippi, 118 College Drive, Hattiesburg, MS 39402. *Removal of Multiplicative Poisson Noise Using Variance Based Joint Sparsity Recovery.*

There has been much effort put into the use of multi-measurement vectors (MMV) and $\ell_{2,1}$ regularization to recover signals. Specifically, recent research has suggested that the effects of bad data on a signal may be lessened by using the variance based joint sparsity recovery method (VBJS), which weights the original jointly sparse (JS) signal recovery method, making signal recovery more accurate and cost efficient. This method, however, only accounts for additive noise supplement to the deblurring model for reconstruction of the true signal. Realistically, there is automatically inconsistency in the deblurring model, as well as other factors, that will also create multiplicative noise in the model. In this talk, this multiplicative noise in the model will be addressed, specifically multiplicative Poisson error distribution noise. Understanding the effects of this noise on the deblurring model as well as how to reduce its effects on the reconstruction of the true signal are essential for using the VBJS method in data fusion problems, where measurements may be obtained through multiple techniques and must be combined for an accurate reconstruction. This proposal is considered in 1-dimension, but through future work may also be applied to 2- and 3-dimensional scenes. (Received August 30, 2018)