Response to comments by referees
on
Instability and change detection in exponential families and generalized linear models, with a study of Atlantic tropical storms
Ying Lu and Snigdhansu Chatterjee

October 7, 2014

We thank both reviewers for their comments. We have included appropriate text in the manuscript to address the suggestions of the first referee that the CUSUM test can be applied as a test for a misspecified model in this context a misspecified model implies that the model does not include variables which measure structural changes. We have also added some text to address the issue that for the Poisson distribution a change in mean also implies a change in variance (referee's comment #3). For referee's comment #4, we note that the numbers reported are *sample* values and not population ones, but they are sufficiently close to what we may expect from a true Poisson sample sequence. We note that the figures available in the first draft of the manuscript is also available in the online archived version.

We have included a citation and discussion on Robbins *et al.* (2011) paper, as suggested by the Editor and referee #2. In particular, our results and those of Robbins *et al.* (2011) are very close to each other. We note that their methodology is different from ours, in particular, they use asymptotic approximations and their reported data analysis results seem to be approximate in nature. We did not include the reference to the 17 year old book that referee #2 mentioned, since much more is known in modern change detection than what is covered in that book. Most of the relevant literature we cite are of the original authors who provided the breakthrough results, or modern-day improvements, so we did not feel the need to cite a

nearly two-decade old monograph.