1106-65-1300 **Scott N. Walsh*** (scott.walsh@ucdenver.edu) and **Troy Butler**. *Optimizing Quantities of Interest in High Dimensions to Improve Solutions to Inverse Problems.*

The predictive capabilities of physics-based models are improved by reliably decreasing the size of the sets defining the uncertain input parameters. These sets are often inferred by solution to an inverse problem. We explore techniques for identifying the optimal quantities of interest within a high dimensional output data set for use in the inverse problem to improve the predictive capabilities of a model. Numerical results on physically relevant models are provided. (Received September 12, 2014)