1117-90-330 **Alexander Mafusalov*** (mafusalov@ufl.edu), 303 Weil Hall, University of Florida, Gainesville, FL 32611, and **Stan Uryasev** (uryasev@ufl.edu), 303 Weil Hall, University of Florida, Gainesville, FL 32611. *Risk-averse chance optimization with buffered probability of exceedance.*

The Probability of Exceedance (POE), a probability that a random loss exceeds a certain threshold, is one of the key performance measures in many applications, including finance. However, POE optimization is not convex and computationally challenging. Additionally, POE estimates are not risk-averse. This paper uses a new probabilistic characteristic called buffered Probability of Exceedance (bPOE) to provide an alternative convex optimization problem formulation. This bPOE minimization problem is a conservative version of POE minimization, as bPOE is the smallest quasi-convex upper bound for POE. A case study with a cash flow matching problem where bPOE is used to control risk of shortfalls was performed. (Received January 17, 2016)