1106-60-907 **Robert Alohimakalani Yuen*** (bobyuen@umich.edu) and **Stilian A Stoev**. *Upper bounds on Value-at-Risk for the maximum portfolio loss.*

Extremal dependence of the losses in a portfolio is one of the most important features that should be accounted for when estimating Value-at-Risk (VaR) at high levels. Max-stable processes provide a principled framework for the modeling and estimation of extremal dependence. In practice, however, this involves dealing with a challenging infinite dimensional parameter. Here, following recent developments in Strokorb and Schlather (2013), we propose to represent extremal dependence via the Tawn–Molchanov (TM) model, which is finite dimensional. Every max–stable random vector $\mathbf{X}$ can be associated with a TM max-stable vector $\mathbf{Y} = \mathrm{TM}(\mathbf{X})$ so that the *extremal coefficients* of $\mathbf{X}$ and $\mathbf{Y}$ *match* and at the same time $\mathbf{Y}$ stochastically dominates $\mathbf{X}$ in the lower orthant order. This result readily yields an optimal upper bound on the Value-at-Risk $\mathrm{VaR}_\alpha(\mathbf{X}^\vee)$ of the maximum portfolio loss $\mathbf{X}^\vee := \max_{j=1,\dots,d} X_j$. We discuss some challenges in extending our framework to bound Value-at-Risk for the *sum of dependent losses*. (Received September 08, 2014)