

1163-93-518

Yang Shen and **Bin Zou*** (bin.zou@uconn.edu). *Mean-Variance Portfolio Selection in Contagious Markets.*

We consider a mean-variance portfolio selection problem in a financial market with contagion risk. The risky assets follow a jump-diffusion model, in which jumps are driven by a multivariate Hawkes process with mutual excitation effect. The mutual excitation feature of the Hawkes process captures the contagion risk in the sense that each price jump of an asset increases the likelihood of future jumps not only in the same asset but also in other assets. We apply the stochastic maximum principle and linear-quadratic control technique to solve the problem and obtain the efficient strategy and efficient frontier in semi-explicit forms, subject to a non-linear partial differential equation. (Received September 08, 2020)