

1157-60-450

Yi Shen* (yi.shen@uwaterloo.ca) and **Zhenyuan Zhang**. *On discrete-time self-similar processes with stationary increments.*

In this talk we study the self-similar processes with stationary increments in a discrete-time setting. Different from the continuous-time case, it is shown that the scaling function of such a process may not take the form of a power function. More precisely, its scaling function can belong to one of three types, among which one type is degenerate, one type has a continuous-time counterpart, while the other type is new and unique for the discrete-time setting. We then focus on this last type of processes, construct two classes of examples, and prove a special spectral representation result for the processes of this type. We also derive basic properties of discrete-time self-similar processes with stationary increments of different types. (Received February 03, 2020)