
QIYU SUN, University of Central Florida

Phaseless sampling and reconstruction of real-valued signals in shift-invariant spaces

Sampling in shift-invariant spaces is a realistic model for signals with smooth spectrum. The topics of this talk are phaseless sampling and reconstruction of real-valued signals in a shift-invariant space from their magnitude measurements on the whole Euclidean space and from their phaseless samples taken on a discrete set with finite sampling density. In this talk, we introduce an undirected graph to a signal and use connectivity of the graph to characterize whether the signal can be determined, up to a sign, from its magnitude measurements on the whole Euclidean space. In this talk, we also consider reconstruction algorithms which provides a suboptimal approximation to the original signal when its noisy phaseless samples are available only.