

Title: The applications of compressive sensing to radio astronomy

Abstract:

Compressive sensing/sampling (CS) says that we can reconstruct a signal using far fewer measurements than required by the Nyquist-Shannon theory, provided that the signal is sparse or there is a sparse representation of the signal with a respective given basis function dictionary. Since CS was proposed, it has attracted very substantial interest and been applied in many research areas. In this talk, some latest application development of CS will be introduced first. So far we have developed two applications of compressive sensing to radio astronomy: image deconvolution and Faraday rotation measurement synthesis methods. Both new developments will be discussed in the talk.