

Sparse sampling for cartoon-like images

Wang-Q Lim

Technical Universitt Berlin

lim@math.tu-berlin.de

In a wide range of image processing applications such as MRI, computer tomography and radar, one seeks sampling strategies which allows for taking the reduced number of Fourier measurements without degrading the quality of image reconstruction. In this talk, we will present a novel sparse subsampling technique for piecewise smooth images which can be sparsely represented by directional systems. In particular, we will show our scheme based on compressed sensing can sparsely approximate such a image f from the collection of samples corresponding to the Fourier coefficients of f with almost optimal sampling rate.