



IMPROVED MEASURE ALGORITHM BASED ON CoSaMP FOR IMAGE RECOVERY

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Abstract- In order to improve the quality of the reconstruction image which using Compressive sensing(CS) algorithm. Based on improved measurement matrix combined with CS Matching Pursuit(CoSAMP)algorithm, this paper presents a kind of Fourier Ring Compressive Sampling Matching Pursuit (FR-CoSaMP) algorithm. The algorithm superimposed deterministic ring measurement matrix to optimize measurement process on the basis of Fourier measurement matrix. And solve the iterative inverse operation by using FFT fast Fourier calculation method, which can make the measurement information more complete, and speed up the signal reconstruction. Then introduces the mathematical framework and algorithmic processes of the FR-CoSaMP algorithm in details. Finally, compare these types of traditional algorithms and the improved algorithm by analysis and simulation. The results show that, under the same image sparsity and measurement scale, the improved FR-CoSaMP algorithm has better performance in terms of the image reconstruction.

Index terms: Compressed sensing, Measurement Matrix, Fourier Ring, Orthogonal Matching.