TBA

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Abstract

When the Fourier transform of a signal of length N is sparse, computing it should be a o(N) operation since the negligible Fourier coefficients need not be part of the output. Sublinear algorithms for sparse Fourier analysis were introduced recently by Gilbert, Strauss, Zou, and collaborators—but in this talk, I would like to discuss a somewhat different approach to the same problem. Early numerical experiments show definite promise. The success of a new Fourier Sketching algorithm will be linked to the possibility of decoding from judiciously chosen compressed measurements in o(N) time, without even formulating an ell-1 problem.