

5005-B1-46

Justin Romberg* (jrom@ece.gatech.edu), Atlanta, GA. *Sparsity and Incoherence in Compressive Sampling.*

Recent results in compressive sampling have focussed on recovering a sparse signal from a small number of noise-like measurements. In this talk, we will focus on sparse signal recovery from more structured measurements. We will discuss how new weak uncertainty principles between general pairs of orthobases are used to derive recovery bounds for signals which are sparse in a basis B1, and then sampled in a different basis B2. We will also show how these uncertainty principles can be extended to practical architectures, and explore applications in radar and coherent imaging. (Received June 07, 2007)